

MARINE CORPS Gazette



JANUARY, 1946 30c



THIS MONTH'S COVER

OUR December cover artist, StSgt John W. McDermott, USMC, returns this month with his interpretation of a marine on his day off. While on Okinawa, Sgt McDermott conceived the idea for this drawing after observing several marines in the rear areas parading about with their assortment of Jap souvenirs. As he put it, "not that anybody had any days off, but a few managed to get out and pick up a few things now and then." This drawing represents one in a series of several to follow commemorating the work of our combat artists during this war.

THE MARINE CORPS GAZETTE

Professional Magazine for the United States Marines

ORGAN OF THE MARINE CORPS ASSOCIATION

Headquarters, U.S.M.C., Washington 25, D. C.

Offices: 1121 - 14th Street, N. W., Washington 5, D. C.

Telephone: District 5213



Colonel John Potts	Editor-in-Chief
Major Osborne K. LeBlanc	Editor
Sgt William F. Murray	Managing Editor
Corp John S. Lindsay	Asst Editor
PFC Barney J. Unterman	Asst Editor
Sgt LeRoy B. Tyrell	Art Editor
Sgt Ray Tyler	Staff Photographer
TSgt Evan W. Drake	Business Manager

EDITORIAL ADVISORY BOARD

Director, Division of Plans and Policies

Commandant, Marine Corps Schools

Director, Division of Public Information

Director, Division of Aviation

VOLUME 30, NUMBER 1. Published monthly by the Marine Corps Association, Headquarters, U. S. Marine Corps, Washington 25, D. C. Editorial and Advertising Office, 1121 14th St., N. W., Washington 5, D. C. District 5213. Copyright, 1945. Entered as second-class matter, March 27, 1929, at the post office at Washington, D. C., under the act of March 3, 1879. Additional entry at Baltimore, Md. Single copy, 30 cents; subscription rate, \$3.00 a year. Subscriptions of all Marine personnel include membership in the Marine Corps Association. Articles, monographs, studies, and letters of professional interest are invited. Opinions expressed in the GAZETTE do not necessarily reflect the attitude of the Navy Department nor of Marine Corps Headquarters. Only service journals may reproduce Gazette material without special prior permission.



*We're catching up
with those
telephone orders*



THE news is a lot better for every one who's been waiting for a telephone.

We've put in more than 500,000 telephones in three months—and they're going in faster every day.

But there are places where we have complicated switchboards to install—even places where we must build new buildings for the new switchboards. In those places it will take more time.

We're working hard on that job and aiming to give everybody quicker and better service than ever before.



BELL TELEPHONE SYSTEM

There's Good Music on **The Telephone Hour** . . . every Monday evening over NBC

Especially for Marines . . .

FRESH DAILY

SANDWICHES

and

CAKES



MALLARD SANDWICH CO.

WOODLAWN, SUNSET PARK

WILMINGTON, NORTH CAROLINA

WARNER ELECTRIC BRAKES

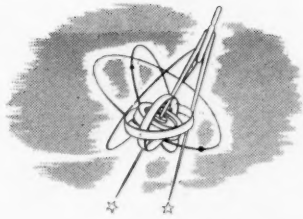
On essential motor transport and
artillery pieces are proving their
dependability on the battlefields of
the world.



WARNER ELECTRIC BRAKE MFG.
CO.

Beloit • Wisconsin





Sperry Gyroscope Company will have companion equipments, *Radar* and *Loran*, available to the marine industry in the very near future—*Radar* with its ultimate potentialities in use with the Sperry Gyro-Compass—*Loran* for its electronic position indicating at sea. This equipment is the result of some of Sperry's greatest achievements for our Armed Forces. Now that peace is here, the same wonders of *Radar* and *Loran* are available to our Merchant Marine in equipment which meets the usual rigid tests and high-quality performance of all Sperry products, and is backed by Sperry's worldwide service organization.

SPERRY GYROSCOPE COMPANY, INC., GREAT NECK, N. Y.

Division of the Sperry Corporation

LOS ANGELES ★ SAN FRANCISCO ★ SEATTLE ★ NEW ORLEANS
CLEVELAND ★ BROOKLYN ★ HONOLULU

GYROSCOPICS • ELECTRONICS • RADAR • AUTOMATIC COMPUTATION • SERVO-MECHANISMS



Yes sir ... here's extra flavor for everybody! Just add a dash of Crosse & Blackwell Worcestershire Sauce, or thick, rich C & B Sauce to meats, fish, soups, stews, gravies. . . . Get the habit—ask for these sauces by name . . . keep them on the table.

CROSSE & BLACKWELL
Good Things to Eat Since 1706

Official Marine Corps PICTURES

Now available—official Marine Corps photos taken during each major operation by Marine Corps cameramen—actual combat scenes—set of twenty, 4"x5" glossy prints per set, \$1.20. Order sets by name.

(1) Guadalcanal (2) New Georgia (3) Bougainville (4) Tarawa* (5) Kwajalein (6) Eniwetok (7) Saipan* (8) Guam (9) Tinian (10) Peleliu* (11) Iwo Jima (12) Okinawa (13) Air Activities (14) Combat Engineering (15) Tanks in Action (16) Amphtracs in Action (17) Marine Cemeteries (18) Communications in Action (19) Women's Reserve Activities.

*Photos of these campaigns come in two different sets. Order single or both.

Marine Corps GAZETTE Bookshop
1121 14th Street, N. W.
Washington 5, D. C.



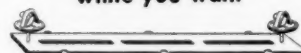
VIKING

KWIK SET

PATENT PENDING

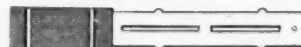
RIBBON BARS

They snap on in a jiffy . . .
while you wait.



HERE'S THE PERFECTED BAR

Quick as 1-2-3



1. First Ribbon Snaps On



2. Second Ribbon Snaps On



3. Third Ribbon Snaps On

AND IT'S READY TO WEAR

AND JUST LOOK AT
ALL THESE FEATURES!

- Made for 1, 2 or 3 ribbons in 3/8 in. or 1/2 in. width
- Assembled in a jiffy . . . no tools
- No sewing . . . no stitching
- No pasting . . . no trimming
- Snap on in correct sequence
- Ribbons lie flat and snug
- Ribbons stay put . . . no sliding
- No waiting . . . no ordering
- Rustproofed, spring metal bar
- Adhered to metal base
- Clutch fasteners have point protection
- Lay flat against uniform
- With or without cellophane cover
- Priced no higher than inferior bars

HILBORN-HAMBURGER, Inc.
15 East 26th Street • New York 10, N. Y.
Manufacturers of Quality Military Insignia & Equipment

JANUARY 1946

CONTENTS

MARINE WITH THE CHETNIKS, <i>Capt Walter R. Mansfield</i>	3	OCCUPATION AT TSING TAO, <i>1stLt Alan I. Shilin</i> ..	31
WILL THE QUEEN DIE?, <i>Capt William H. Whyte, Jr.</i>	10	WHO'S WHO IN THE ATOMIC RACE?, <i>Stefan T. Possony</i>	37
AMPHIBIOUS RECON PATROLS, <i>Col William F. Coleman</i>	13	TAKING OF WESTKAPPELLE, <i>LtComdr Ian C. Higgs, RN</i>	42
ISLAND COASTWATCHERS, <i>J. L. Zimmerman</i>	16	SURRENDER PROPAGANDA, <i>Maj E. P. Boardman</i> ..	44
COMBAT MOTOR TRANSPORT, <i>Maj Frank A. Long</i>	19	THE SOUTHERN CROSS	47
STRATEGIC AIR POWER	23	MILITARY ASPECTS OF MENTAL DISEASE, <i>Lt Comdr Philip Solomon, (MC)USNR</i>	51
TRAINING OUR NEW RESERVE, <i>Capt Arthur Rose</i> ..	30	TWO FLAGS AT TARAWA, <i>Jim G. Lucas</i> .. Back Cover	

Picture credits: All pictures official Navy or Marine photos.

This Month and Next

PARACHUTING into the mountainous area of central Serbia as the first American representative to the famous Chetnik guerrillas under the command of General Draga Mihailovich, Marine Captain Walter R. Mansfield commenced one of the most daring and unique assignments of any marine during this war. In his article, *Marine with the Chetniks*, page 3, Capt Mansfield gives a vivid account of the Yugoslav guerrillas operating from their secret hide-outs to harass the German occupation forces by raids on enemy garrisons and communication lines. How this band of roving warriors armed with weapons of practically every nation succeeded in effecting the surrender of thousands of Italian troops represents another interesting highlight in Capt Mansfield's *Marine with the Chetniks*.

In *Island Coastwatchers*, page 16, J. L. Zimmerman, former Marine captain in the Public Relations

department, brings to light the highly important role played by the Pacific coastwatchers during the Solomons campaign. Paying tribute to a group who outsmarted the Japs at every turn, the author relates how these agents operated far behind enemy lines, separated from their own kind by vast stretches of enemy-held water, dependent on the loyalty of the natives that surrounded them for their existence and welfare.

Those who are convinced that the infantry arm will never be supplanted as an integral part of our military might will find considerable consolation and support in Captain William H. Whyte's article *Will the Queen Die?*, appearing on page 10.

The concluding article on the development and effect of strategic and tactical bombing against Germany will appear in the February issue of the GAZETTE along with Capt Mansfield's second installment on his experiences with the Chetniks.



Marine with the Chetniks

Displaying their

excellent discipline, the Yugoslav guerrillas, fighting without pay or clothing issue, kept the Nazi forces in Central Europe off balance.

By Capt Walter R. Mansfield

Although this article tells of the activities of General Draga Mihailovich and his Chetnik guerrillas, it is presented only as a narrative of a marine's adventures as an OSS officer. The politics of the situation need not concern us, because the scene is laid in 1943 before the Allies had made a choice between Mihailovich's Chetniks and Tito's Partisans. Gradually however, Tito convinced the Allies that his guerrilla movement would prove more valuable than Mihailovich's in winning the war. Although recent Yugoslav elections supplied another democratic "bone of contention," Tito won by an overwhelming margin.

OUR huge blacked-out Halifax bomber thundered northward through the night over the Albanian mountains toward Yugoslavia. The objective was contact with a band of Serbian guerrillas located on a certain plateau in central Serbia, not far from the German-occupied capital, Belgrade. If the proper ground signals were shown, I was to parachute with my radio transmitter and three tons of arms, ammo, and explosives, packed in parachute containers were to be released from the plane's bomb-bays.

My mission was to be the first American liaison to the famous guerrilla leader, General Draga Mihailovich, and his Chetnik army. In May 1941, when Yugoslavia fell, these soldiers had retired to their mountains and woods. Since then, according to reports reaching the outside world, they had operated out of secret hide-outs to harass the German occupation forces by raids on enemy garrisons and communications lines. The British had already sent in some representatives. Now, on this date—19 August 1943, the office of Strategic Services, a secret American military organization operating directly under the Joint Chiefs of Staff, was sending in its first American mission. The Italian campaign was imminent and it would be imperative to get the Serbian guerrillas to tie down as many German divisions as possible by cutting main communications lines and stepping up their attacks.

So far our little night's venture had proceeded smoothly and according to plan. We had taken off from Allied territory—the hot Sahara sands of Libya, North Africa—at sunset, and had now covered well over half of the five-hour flight up to our target area, crossing the Mediterranean and Western Greece at about 8,000 feet. I had perched my-

◀ This Chetnik officer was one of those who helped the author harass Nazis.

About the Author

Capt Walter R. Mansfield has had one of the most varied Marine careers in the three years which he has served in the Corps. Most of it has been spent—not as part of a strong battle force facing the enemy on prepared battlelines but operating alone in the middle of enemy-occupied Yugoslavia, Burma, Ceylon, Malaya and China. Commissioned in 1942, Capt Mansfield was indoctrinated with the Fourth Marine Parachute Battalion at Camp



Capt Mansfield

Lejeune. In June 1943, he was assigned to the Office of Strategic Services and went to England to set up a parachute training course operated by a small group of OSS marines for French and Norwegian saboteurs. This article tells of his adventures in Yugoslavia after he parachuted there in August 1943. In March 1944, he made his way through Nazi lines to the Adriatic Sea and escaped to Bari, Italy. Two months later, Mansfield was on his way to Southeast Asia as OSS operations officer after only a short stay in the States. His first task in Asia was to coordinate native Burmese, Malaysians, and Thai saboteur groups, who infiltrated Southeast Asia by plane and submarine. From December 1944 to June 1945, Mansfield went behind Japanese lines with a small avenger group to organize Chinese guerrillas and to conduct ambushes and raids on the Japs' main lines of communication and supply. From June 1945 up until the end of the war, he moved to North China where he had charge of teams which parachuted into prison camps at Mukden, Peiping and Wehsein for the evacuation of American POWs. Capt Mansfield capped his OSS career by assisting in the rescue of Generals Wainwright and Beebe as well as three of the surviving Doolittle fliers. The captain is preparing a story on his adventures in Asia which the GAZETTE hopes to present.

self up in the bomber's nose and, as we flew over Greece, I got a big kick out of watching shimmering lights of distant towns black out as we approached.

A few minutes later I saw them for the first time—five fires in the pattern of a square cross, far below. A tiny light blinked "dit-dah-dit" from the ground near the fires. Then it repeated. These were the signals we had been briefed to accept. We flashed back our Aldus lamp. Then the lights passed beyond the hole and I could not see them. We came downstairs to about 1,000 feet. After two passes over the target, the bombardier leaned over and yelled in my ear, "Get yourself ready—this is it!"

The light directly over the hole went red—my warning signal! I threw my legs over the side of the hole and suspended myself over it, hands supporting on the edges, eyes facing the light directly above me. One—two—three—four—five—"Green light!" I shoved off.

The chute blossomed easily and I suddenly found myself in a contrasting world of silence, with no more roar of motors. I gained my bearings and saw that I had been dropped too far to one side of the fires, which were several hundred yards distant. All around me there were mountains. I tried frantically to slip toward the fires but realized that I would never make it. I landed in a pile of rocks on a hillside.

I got out of my harness, hid my chute, drew my .45 and waited in the cold. Within ten minutes I heard voices, yelling out in Serbian, "Zdravo!

Zdravo! Piatelj!" (Greetings! Greetings! Friend!). I answered and soon was surrounded by a small group of weird, ragged-looking men, most of whom had black beards and hats bearing a skull-and-bones emblem. I told Lt Perich, their leader, that I was an American, whereupon they all began to whoop, holler and kiss me (black beards and all) yelling "Zdravo, Purvi Americanec" (Greetings, First American). I mustered up my Serbian to reply, "Zdravo! Chetnici!"—The first American had landed.

The drop zone was a beehive of activity. There were about 300 guerrillas; some busy tending the fires, others standing guard around the little hillocks near the field or waiting to gather up the containers and put them in oxen carts. All cheered loudly as I marched with my little escort to the middle of the field where a group was waiting.

Here I met Slepovich, an emissary from Gen Mihailovich, Col Bill Bailey and Maj Greenlees, British liaison officers to Mihailovich. Just then the bomber roared in over our heads and dropped 15 parachute containers which were quickly gathered and loaded onto the carts. My new life had begun.

The air was cool and the soil rocky, a wonderful contrast to the burning sands of Africa. After two miles of walking, we penetrated a little woods on the top of one of the hills and there found a big log fire, with rough-hewn benches lying about. Nearby there were a few pup tents and two or three Serbian thatched mountain peasant houses. Big bearded guards stood about under the trees.



This Chetnik inspection might not pass by Marine standards, but their fighting did.

"This is for the present the General Staff Headquarters," said Col Bailey. "I think the General will be along shortly because I know he has been waiting and is anxious to see you."

So this—these few tents—constituted the H. Q. of the famous leader who had never stopped fighting when his country capitulated in 1941—the Robin Hood of Serbia! I had heard that the guerrillas endured extreme hardships and were forced to take cover in the woods and mountains, whence they emerged periodically to strike and retire but I had expected something a little more pretentious. I was soon to learn, however, that appearances were deceiving. The surrounding woods were full of guerrillas, fully equipped with radio communications to all parts of Serbia, and their power could not be measured by the size of their headquarters.

In a short while, a dark figure emerged from one side of the woods, with several others following. "Here comes the General," said Bailey.

Bailey introduced me, "Gospodin Minister, ovoj Kapitan Mansfield, purvi Amerikanec, ko je skorcio iz avione vecheras. On govore Francesce." The General and I saluted and shook hands. Before me stood a man of perhaps 45 years, stocky-medium build, heavy iron-gray beard, wearing a black cap, leather jacket, peasant britches and a neat, well-polished cartridge belt from which a Luger protruded at a cocky angle. He smiled broadly. "Greetings, Captain. Welcome to our free mountains of Yugoslavia," he said quietly, in perfect French. "Thank God, you landed safely. We were all worried. We don't want anything to happen to the American officer who had been sent in to us." I thanked him.

"Come," he said, "you must be tired. Let's sit by the fire and rest a bit. Perhaps we can have a little refreshment." I was then introduced to Gen Trifunovich, his chief of staff, a large, corpulent man; Maj Laladevich, his G-3; Col Simich, his inspector-general; Capt Pevetz, chief radio officer; and others.

As we sat down around the log fire, Yanko, the General's orderly, appeared with a bottle of "rakia," a strong peasant-made vodka distilled from plums. This loosened our tongues and in a short while I was telling them about various Yugoslav staff officers who had escaped in 1941 and were now working for their country's liberation in Cairo and London. Their faces were rapt in interest. I could not help noticing the sharp contrast in appearance between these ragged men and the neat well-dressed Yugoslav officers I had met in Cairo. Here it was the man, not the cut of his uniform, that mattered. Here were the fighters.

I learned that the nearest German garrison lay on the main road, about three hours away by foot, but that we were well-protected by outlying guerrilla guard detachments. While the Germans patrolled this road in tanks and lorries, they

seldom came up into the woods, and then only with a sizeable force which would be detected well enough in advance to permit us to change our location. It was now 3 a. m. The oxen carts arrived and we distributed the equipment so that in case of a surprise move, nothing would be abandoned. There was a possibility that the plane might stir the Jerries into action.

In one group of tents (made from camouflaged parachutes) were the members of the British mission. Col Bailey, like myself, had parachuted in with his radio operator, Sgt Tonnison. Bailey had been in Serbia for 15 years before the war and spoke the language like a native. Lt Col Duane Hudson, former British mining engineer in Serbia, a tall, well-built man of about 31 years, had been landed blind from a submarine on the coast of Montenegro to contact the guerrillas long before and had been with them ever since. Then there were two Royal Marine sergeants who had been taken prisoner by the Germans on Crete in 1941, and after spending many months in a German prison camp in Greece, had jumped through the window of a prison train in Yugoslavia and were hidden by the Serbs. Now they looked more like peasants than soldiers. They were all starved for news of the outside world. Tired as I was, I told them all I could. Then I hit my sack, which consisted of a pile of straw under a pitched parachute, and fell fast asleep.

After morning chow, which consisted of black bread, "kimak" (skimmed milk, dried and salted) and lamb stew cooked over an open fire by some Serbian boys, we arranged my personal gear so that I could move quickly if necessary. There were a large number of pack animals about with wooden samar saddles. A young saddle boy and I packed my load, including radio, so that it could be lashed on quickly. Then we made several dry runs until we could saddle and load the horses and be off in less than 15 minutes.

Meanwhile I experienced my first air raid alarm in Serbia. Several cries of "Avion! Avion!" came from the woods. I heard the low hum of a plane and quickly we dragged all light-colored gear under the nearest trees. A German JU-52 transport lumbered on past at about 3,000 feet without bothering us. Later on I was to see what happens when the Jerries did decide to bother us.

Gen Mihailovich, or "Cheecha" (uncle), as his troops fondly called him, advised me that we would camp in this spot for a week or so, subject always to a quick move, or "pocred," on a moment's notice. The next few days were filled with work, from dawn till the late hours of the night. There were all-day conferences with the General in which I learned his organizational set-up, plans, operations and difficulties; inspection of troops in surrounding woods; discussion of supply needs. I saw his main communications station, consisting of

five portable suitcase-type transmitters located nearby and operated by former Yugoslav Signal Corps men. In all he had contact with about 38 different smaller, hand-made sets located with guerrilla leaders operating all over southern Yugoslavia. Each day he would receive radio reports from these outlying posts, and each day different guerrilla leaders would appear after long journeys to visit him for conference. I myself maintained daily radio contact with OSS Headquarters at Cairo.

The thing that impressed me most about these guerrillas was the excellent discipline. It must be remembered that these men received no pay and no issue of clothing. For two years they had been sleeping in the woods. They lived off the land, relying on the generosity of the peasants for food. Despite this, each guerrilla followed orders without question, cheerfully carrying out long marches over the steepest mountains, always ready to risk his life for his commander.

My first contact with the enemy was most unusual, even for the guerrillas, because we, and not the Germans, were surprised. At about 0530 one morning a guerrilla guard came to the parachute tent where Bailey and I were sleeping and said, "Nemsi su blizu." (Germans are close.) This was not news, for the Germans were always about two hours away. Not taking any chances, however, we had our guards pack all radio and other equipment on the horses, saw that everything was squared away, then went back to the mountainside.

About 15 minutes later I was rocked out of my bunk. All hell broke loose, with heavy machine gun and small arms fire on all sides right around us. We leaped out of our sacks, grabbed our rifles and jumped into the bushes. The fog was just lifting and we could spot some figures, dodging behind trees and bushes and firing at intervals. Machine guns at higher elevations were blazing away down the other side of the hill. The difficulty was that there appeared to be no definite skirmish line, since there was more firing back to our left.

After a few minutes, Bailey finally spotted two or three Jerries off to the left, running from tree to tree. Their uniforms were a solid green—gray color. We opened up on them, but it was impossible to tell whether we connected because of the thick brush. After another 15 minutes, the firing died down and became more sporadic. We decided to try to get back to Mihailovich's command post and find out what the story was. Our horses were picketed in a little ravine to the rear and by worming our way through the bushes we finally reached this defilade and from there went to see the General.

The General hurriedly advised us that about

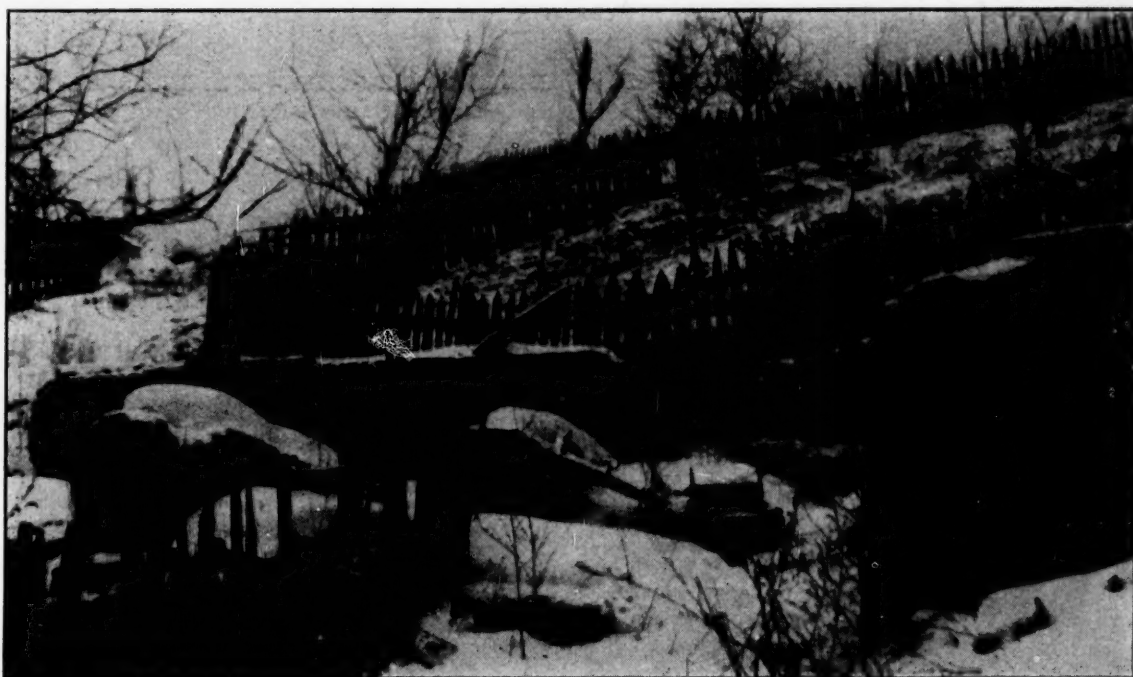
200 German soldiers had come by truck before day-break to a spot on the road nearest our camp. Then, under cover of fog, they had successfully slipped through our outer defenses before being detected. By that time they were so spread out that confusion reigned. Meanwhile Mihailovich himself was directing operations, dispatching groups here and there. At the same time a lot of pack animals, laden with equipment, were coming in and being sent up over a back trail through the mountains to a secret hiding place.

The German attacking force finally withdrew down one side of the mountain, leaving 20 dead or wounded. Our own losses were about the same. We rushed back to rescue our sleeping bags and any odd gear left about. On the way I saw several bodies but did not stop, since we had to move. The General ordered that since the Germans now knew our camp location and would probably bring up reinforcements, we would move at once. The guerrillas completed questioning five German prisoners and dispatched them. Then, just as rain started to fall, we started with many others in single file up over a trail to the rear through the mountains.

I shall never forget this "pocred," or forced march. In all there must have been about 500 of us, including old and young, stretcher cases, cooks, camp followers and rugged little heavily-laden pack horses. Hour after hour, we slowly wound our way up and down steep, almost impassable, mountain trails, through a cold, penetrating rain. The march started around noon and continued all day and night until 0300 the following morning, with frequent rests while we waited for patrols to report. The endurance of these men amazed me. Despite their ragged condition and the tiring, steady, endless pace, there was only cheerfulness and no complaints. As we passed danger spots, machine gun cover guards would be posted. After the first eight hours, I became weary and stiff. Whenever I asked, "How much longer?" I would always receive the same reply, "Only two hours." This would stretch into three, then four more hours. We finally camped in a little village in the Zlatibor Range.

I was now familiar with the Chetnik staff headquarters and wanted to see a guerrilla group in action before assessing their capabilities and making recommendations for supply. I spoke to the General about this and after considerable reluctance, based on his desire not to risk the only American, he agreed to let me go on a job to be jointly planned by ourselves and the British.

Our target was to be the main railroad line running from Belgrade (central German headquarters for Serbia) west through Visegrad and Sarejevo down to Dubrovnik on the Adriatic Sea. It was an important German supply link to the coast. The local guerrilla chieftain, Capt Radovich, told



Ruins like these dot the countryside, marking Nazi reprisals for guerrilla activity.

us there were three or four unguarded tunnels and a river bridge near the town of Vardiste. If true, this would be an unusual advantage for us, since most railroad bridges and tunnels were heavily guarded by German or Bulgarian detachments and fortified by pillboxes, mines, and heavy machine gun emplacements.

Col Hudson and I first made our own reconnaissance. With a detachment of 50 guerrillas, we marched three days over the mountains to the vicinity of the bridge and tunnels. There were several tunnels in the mountain where the railroad skirted around the side of it, on two different levels. I got within 200 yards of one entrance and through my binoculars saw no evidence of life. Near the bridge, there were only a few Bulgarian puppet troops hanging around. We waited two hours that afternoon for a train to pass. It was a medium-sized engine drawing eight cars, three of which were full of soldiers. From interrogation of different guerrillas we found that there were about three regular trains running each afternoon, including one from Visegrad to Belgrade passing through at 1730.

The bridge was a modern, single-track, steel girder type, about 100 feet long, supported by concrete abutments and two concrete piers. We estimated the size of the beams and decided that by using ring-mained charges set on all girders and beams about five feet in from both piers we could cut it clean and drop it into the river. The job would require about 100 lbs. of explosive at

both ends. We had all the demolitions equipment necessary.

The only railroad wrecking yard was located to the east of the bridge, which lay between it and the tunnels. By wrecking a train in the tunnel and then blowing the bridge we could prevent a wrecking crew from quickly cleaning up the obstruction, and thus probably tie up the whole line for a month, since the Jerries would have to put in a new bridge before getting to the wrecked train.

Back at our camp we planned the job. The main force of 300 men with a demolitions squad would take a position in the woods near the bridge. I would go with a smaller force to the tunnel, about a mile away, plant the derailing charges, after which I would rejoin Hudson down near the bridge. Covering machine gun positions would be established on nearby hills and patrols sent out to protect both flanks.

We spent the next two days preparing the charges and briefing the men on their assignments. Then we started out for the target area. The explosive was packed on four horses. At the railroad we found the situation to be the same. No one was guarding either bridge or railroad, but there was a detachments of 500 Bulgars in a town about three miles away.

Covering Zorka machine guns were placed on two hills near the bridge (which gave us good enfilade coverage). The force of about 200 men took up positions, spread out in the edge of the



After a few weeks with the Chetniks, Mansfield was indistinguishable from the rest.

woods, under Capt. Radovich's command. The prepared explosive charges were unloaded and made ready for carriage by small three-man groups to the bridge. Hudson busied himself cutting the time fuses. Everything was secure.

At 1600, I left with a group of 25 men to plant the derailing charges and return for the big show, which would be the demolition of the bridge. With my group I finally reached the woods near the west end of the first tunnel. After our patrol reported that the coast was clear, I entered the tunnel with five men, leaving one group at each end. The track rested on very short ties, supported by rocks and cinders. We walked about 200 feet when my eyes became accustomed to the darkness and I could see the other entrance about 300 feet away. I put two half-pound blocks of TNT under the rail, connected up the primacord and snapped the fog signal detonator on the track—a simple job.

I had just crossed the track and was kneeling down to place a staggered charge on the other side when cries came from the west entrance of the tunnel. We all looked up, and simultaneously heard the "chug-chug" of an engine! A train was coming, even though none was due for about an hour! Panic seized us. Someone cried, "Idemo!" (Let's go!) All six of us bounded down the tracks toward the east entrance, away from the train. It seemed as if we would never reach the exit, but we finally made it, turned off at the end and kept right on running up into the woods where we hit the trail leading down toward the bridge.

In a few moments a train, dragging two cars, roared out of the same exit! We heard steam and a squeal as it began to slow down to a stop. I could not understand it. Why hadn't it been derailed inside the tunnel?

A thundering roar, coming from the direction of the bridge, shook the ground under our feet. I hardly knew what to think. We reached the crest of the hill to meet part of Hudson's and Radovich's retiring group.

Finally I met Hudson and got the story. He had blown the bridge, a beautiful job in which he succeeded in cutting it completely at both ends, dropping it into the river and ruining the piers. After I had started out for the tunnel, he had decided that the situation was safe enough to place the charges on the bridge, and thus have plenty of time after I got back. With a dozen men he had tied them all on, rigged up a ring main and was about to retire to the hills when he heard the train in the distance. He waited another few minutes when several men came rushing down from a nearby hill to report that they saw the train in the distance. Rather than risk a delay he had pulled both fuse igniters and, retiring to his post in the hill, watched the bridge go up in the air.

Where was the train? No one seemed to know. A few shots were heard down near the bridge. Apparently some Jerries or Bulgars had arrived. Capt Radovich dispatched 100 men under Lt Medenovich to go back to the tunnel, while we withdrew about three miles up into the hills.

That night we heard the balance of the story from Capt Radovich. My charge had exploded and blown about four or five feet of rail out of the track, but the train's large wheels still continued to pass over the gap without derailment. The engineer, hearing the explosion, realized something was wrong, and stopped the train after exiting from the tunnel. There were only ten passengers, including three Bulgar soldiers. Our men surrounded the train captured the Bulgars and tried to destroy the train but had no explosive.

Our plans for further operations were interrupted when we received news on 9 September 1943 that Gen Badoglio, on behalf of the Italian Army, had surrendered to the Allies, only six days after the invasion of Italy proper. Almost simultaneously, Cairo radioed us to do everything possible to effectuate peaceable surrender of Italian forces in Yugoslavia. This was a larger order than one might imagine.

There were about five Italian occupation divisions in Sandjak, Herzegovina, and Montenegro, to the south and west of us. Even if these divisions would obey the order to surrender, which was doubtful, the two German divisions in the same region would do everything possible to stop the Italian forces from carrying out Badoglio's orders, even to the point of annihilating them. Furthermore, what would we do with all the Italians, if they surrendered to us? We could not feed and house them in the woods and mountains.

After a quick conference with the General, we decided to make a stab at it. Col Bailey would march with 800 guerrillas, who had quickly assembled, three days south to Berane, headquarters of the Italian "Venezia" division where 8,000 troops were garrisoned. Col Hudson and I were to march with a smaller force of about 300 to the town of Priboj, only six hours away, and try to effectuate surrender of an Italian garrison of 1,800 men.

Col Hudson and I worked out our plan. First we used the General's typewriter to type up a surrender demand—a pompous document which made us both blush when we read it. It called upon the Italian CO to send out a delegation which would meet us in the woods and work out terms for surrender, and guaranteed their safe conduct; otherwise we would attack. One look at the rugged guerrilla crew around us convinced me that we were hardly in a position to guarantee anybody's safe conduct, much less that of an enemy group!

The following night, after an eight-hour hike over the mountains with our band of ragged guerrillas under Capt Novarkovich, we reached the mountains overlooking the Italian garrison. It was pitch black and movement through the woods was most difficult. We realized that our timing was poor and that daylight would have provided more suitable conditions, but decided to go through with

it. We quietly descended to a point about 400 yards from the garrison and deployed our men in the woods. We gave the note with instructions to a peasant from the town, who knew some of the Italian officers and men and the way to get in. Any delegation was to be led to an intermediary point where some of our men would lead them to us.

About 15 minutes after the peasant departed, the silence of the night was broken by a burst of heavy machine gun fire from the garrison! Then they hit us with everything they had, firing mortars and machine guns wildly into the side of the mountain. We blew the signal to withdraw and about one hour later our forces assembled on the top of the mountain. Our men told us the story. Panic had apparently seized the Italians. Our emissary had been mowed down before he ever reached the main gate. We had lost three men.

We spent the night on the mountain top, sleeping on hay in the cold. In the morning I got my first glimpse of the Italian garrison in the distance. It was a formidable structure, stretching along over the crests of several small hills in the valley.

A second copy of our surrender demand was sent down to the Italians. That noon we received a reply under the seal of the Italian CO, Col Graziani, that he had no orders to surrender to us and therefore would not do so. That was that.

We could not attack because we did not have either the force or fire-power. One remark in the note, however, made us determine to wait another day. The writer, half-pleading, stated that he was "only a soldier, and must obey his orders." Through the peasant grape-vine, we learned that there was trouble inside the garrison. All Italian troops had been called in from the town. The Italian CO wanted to surrender but there were about 100 Fascist "black shirts" who demanded to fight it out to the bitter end and threatened rebellion. All day, our own men lay around on top of the mountain, plotting and planning what they were going to do if Priboj fell. Their eyes glistened as they talked of new boots, Italian uniforms, blankets, machine guns, and women.

The news broke with a bang on the following day. A peasant brought a note from the garrison that the Italians would talk surrender! Within three hours, we were discussing preliminary plans for entry with a cocky little Italian major, dressed in fancy blue-gray peg pants, high boots and a tight-waisted, almost feminine-looking, blouse. Six hours later, we walked with a heavy guerrilla guard through the streets of the town to the garrison commander's headquarters, cheered by laughing Serbs, saluted at every turn by cheerful little Italian soldiers.

(The second installment of "Marine with the Chetniks" will appear next month.)



The role of the infantry in smashing the Japs on Okinawa cannot be overestimated.

Will the Queen Die?

By Capt William H. Whyte, Jr.

"THE day of the foot-soldier is gone forever. He is as extinct as the dodo bird. Yet this rather elementary fact seems to have escaped the notice of the hide-bound traditionalists who still cling tenaciously to their predilection for swarming masses of foot soldiers. One might think the atom bomb was still a scientist's idle dream and the B-29 in the experimental stage."

Ridiculous?

Certainly, but if history is any criterion we may soon be reading many such specious "proofs" that the infantry, the Queen of Battle, is quite dead. It was only five years ago that the Germans' tank-plane combination was hailed by many as the *coup de grace* for infantry. If those relatively venerable weapons could prompt such views, how will infantry fare when prophets of the future put it in hypothetical competition with their rocket and atom combinations?

Throughout the centuries the basic argument, however phrased, has been that new weapons—be it armor, artillery, or rockets have made infantry obsolete. An excellent example of this type of sophistry can be found in "Victory Through Airpower" when Alexander de Seversky neatly whips the U. S. with super-bombers alone. The hidden joker is that

where de Seversky's team is a visionary 1950 outfit, the orthodox forces are represented by a strictly 1942 aggregation.

But Mr. de Seversky is only one of a long line of similar prophets, albeit his reasoning follows a familiar pattern. It is that the weapon in question is given the benefit of many years' hypothetical research and then contrasted with contemporary arms. The fallacy lies in the implied premise that the tactics and equipment of the latter must remain comparatively static. Time stands still for all but the author's pet device.

In the early 1500's it was artillery, then emerging from its infancy, that was hailed as the decisive arm. Machiavelli wrote in disgust of the people about him who claimed "Hereafter wars will be made altogether with artillery." He was prescient enough to realize that while artillery was becoming very powerful, infantry likewise was capable of being developed from the mediocre Italian mercenaries of his time to the highly disciplined soldier of citizen armies.

But many of Machiavelli's contemporaries saw war now becoming the province of the mathematician and the technical specialist, just as in recent times there was a spreading belief that the machine

had triumphed over man, that war had now become purely a science, not an art. Simply build more and better machines and victory will be assured—a thesis soothing to industrial America.

Machiavelli, however, from his study of the past rejected such a shallow concept of the means to victory—that it, in effect, could be bought. It would always be dependent, he felt, on the courage and discipline of the infantryman and the ability of his commanders. How applicable are those words today, when many talk of the next war being fought exclusively by a handful of men sitting before dials and instruments deep in underground chambers!

In 1915 artillery was again regarded as predominant, and the maxim "Artillery conquers, Infantry occupies" gained currency. The bloody stalemates that ensued revealed infantry again as the only true cutting edge. The scientist, the technical specialist, this time portrayed by the artilleryman with his firing charts and slide-rules, might be indispensable to victory but he could not seize ground and hold it.

Next the tank was hailed as relegating infantry to the menial role of tenants of ground conquered for them by other means. The eminent and dogmatic military theorist, MajGen J. F. C. Fuller, prophesied in 1933 that the "next war" would see foot soldiers as mere "garrison troops." He described an army of tanks "supported by a second line army, composed not of infantry trained to attack, but of foot soldiers trained to defend—partly engineers and partly anti-tank gunners."

Came the German smash through the Low Countries and Fuller's theories on the decisive role of the tank appeared justified. Overlooked was the fact that the victorious Wehrmacht was composed basically of infantry divisions, that it was excellently trained and equipped, and that its victory was the result of a superb coordination of all arms directed against a foe deficient in morale and whose infantry was inadequately supported by armor and aviation.

BUT for others the fall of France held a different lesson—the plane had become the decisive tactical weapon. The German use of the Stuka had shown the way, and the day was near when larger and more powerful bombers would literally blast enemy lines and positions to pieces, our own infantry following behind to garrison the area. The surrender of Pantelleria to some seemed final proof.

If this thesis was true, certainly the Jap-held atolls and small islands of the Pacific should have been taken without cost. The ratio of explosive per square foot was infinitely heavier on Tarawa and Iwo than on Pantelleria, but there was one big difference—the former were not garrisoned by homesick Italians, but by determined, skilled soldiers. The glib "You'll go in standing up," of not only air but naval gunfire super-optimists, became

a tragic jest to the infantrymen. Preparation was indispensable but the marine and the doughboy did not feel themselves as policemen inheriting islands won for them from bombardier's compartments and battleship plotting rooms.

Cassino should have shattered illusions that firepower, however strong and however applied, can conquer alone. Yet it's not hard to imagine infantry's hypothetical defeats at the hands of prophets of the future. We may soon be reading in books titled like "Rockets will Protect America," of a horrifying disaster in which the aggressor of the next decade hurls thousands of atom-powered rockets from across the seas at our major mobilization centers. Our army annihilated, the enemy's "elite" occupation force lands to take over.

IF OUR theorist follows in the footsteps of his predecessors he will probably not only fail to cede ground forces any technological advances since 1945 but will also assume them without benefit of support from advances in other arms. His dice, however, will be heavily loaded, with the most radical of improvements in his own weapon.

The silent, but nonetheless powerful, accompaniment to the technological arguments against infantry has been the "snob" appeal of other arms. This reached a ridiculous zenith at the Battle of Courtrai in 1302 when the patrician French cavalrymen watched amazed as their lowly foot soldiers proceeded to whip the Flemish infantry. Aghast that their own plebian infantry should get credit for the battle, the cavalrymen ordered them withdrawn that they might charge. With poetic justice, they were soundly trounced when they did, and the battle lost.

In varying degrees this prejudice against infantry has been manifest throughout the years. Remember the early days of the draft when everyone wanted to be a pilot or a tank driver or a specialist of some sort, but viewed with horror assignment to the infantry. The doughboy was in many quarters thought of as a dull oaf unfit for other jobs, retained that champagne drinking, booted officers might have someone to march around a parade ground in a lot of silly maneuvering. Sign of infantry's obsolescence was the "absurd" and "anti-qualified" discipline required.

But why worry, you might ask, over the easily disproved arguments of extremists of the future? Are these not straw men? To find the danger, look through the arguments offered in support of military nostrums of the past. You will find they have these points in common: They are relatively cheap; they require only small numbers of men; they insure the user light casualties.

Attractive, are they not? What will be the temper of the American people a few years hence? Will they not be receptive to any apparently sound argument for an inexpensive defense establishment?

It is upon this natural distaste for an arm that promises no easy victories that the "expert" can



In the battle's final stages, Marine infantry moves into Naha to clean out snipers.

seize. There is an analogy in the period after the Civil War when there was considerable support for the proposition that the Navy should concentrate on building many small torpedo boats to the exclusion of "outmoded" heavy ships. Not only would the fleet of small boats be infinitely cheaper, it was held, but would be easily able to annihilate an orthodox naval force in a matter of hours.

This was the familiar yearning for a bargain counter military, rationalized in imaginary battles by journalists of the day. It would be unusual if our imaginations are not again stirred by Sunday supplement weapons that promise many things, but chiefly to lower the tax load. Why maintain even ten divisions when it can be *mathematically proved* that three "Zerpon" rockets (Cost: \$22,000 apiece and cheap at the price) can destroy 100,000 soldiers in a few seconds?

Modern war is waged by the entire population; a nation's army is the reflection not only of its material but of its moral strength. The peacetime establishment is no less dependent on the fibre of the citizenry. The composition of our future forces, influenced as they might be by the wisdom and foresight of our leaders, will depend eventually on the people themselves.

If we accept the premise that the citizen will ultimately determine the place of infantry in our establishment, we realize then how essential will be the work of the military historian; how vital the continuing discussion through books, radio, and periodicals of the military defense of the country. The temptation for the people to reject old and often unpleasant truths will be strong; the siren voices of those offering security for a pittance will be many. There will be no high powered sales organization lobbying for the infantry.

In democracies the writer of military history

has been customarily apologetic for his interest in war, writing as he has for a people essentially peaceful. This past war has, of course, stimulated civilian interest in tactics and strategy—even so scholarly a book as Freeman's "Lee's Lieutenants" becoming a best seller. Only if such interest continues, be it in reduced measure, will our more thoughtful, opinion-molding citizens be fortified to resist demagogic appeals for push-button defenses.

Certainly the splitting of the atom heralds an era of prodigious scientific development, and underscores the necessity for progressive research and analysis as to the character of our military establishment. Japan presents a terrible lesson to those who would play with new toys without really understanding their proper application. An enlightened American citizenry well-grounded in fundamental military realities will see the atom, radar, the rocket, in their true light—as a new means to apply old principles, not as invalidation of those principles. They will not swallow uncritically pronouncements such as Air Marshall Bishop's statement last year that henceforth "wars will be decided entirely by air-power," and that "the era of landbound armies and seabound planes has come to its twilight."

They will then realize that the soldier of the future may be a weird looking spectacle indeed; that he may be transported to battle by the most fantastic of means, his leadlined helmet radar-equipped, perhaps his commander scorning an OP for a television receiver. But he will realize that the soldier's oaths will be much the same as those of the men of Washington's Continental Line, that he will sweat and freeze and go hungry as American soldiers have done in every war; that he will still need courage and discipline to fight for ground and hold it. He will still be an infantryman.

Amphibious Recon Patrols The annals of

the war against Japan record the work of small bands of men who scouted enemy island bases with their own intrepidity as their sole support.

By Col William F. Coleman

In the first installment, Col Coleman dealt with the amphibious reconnaissance patrol in the early phases of the Pacific war, dwelling on the activities on New Georgia, Kolombangara, the Shortland Islands, the Treasury Islands and Choiseul. He stated that preliminary planning could spell the success of a mission, and this depended on the size of the patrol and the selection of the personnel. The allocation of time and equipment should also be made with cognizance of the mission and the known enemy situation. While these patrols were operating, the high command was also considering the only remaining area in the Solomons, Bougainville.

BOUGAINVILLE was considered with reluctance, for the Japanese were known to hold it in strength. The famous Japanese Sixth Division was present, and the total enemy strength on the island was variously estimated at from 25,000 to 45,000. It was known that the northern and southern parts of the island were held in strength, while the east coast had garrisons of various sizes scattered along it. On the other hand, the Japs were reported to have had almost nothing along the swampy west coast, as it was considered by them to have no military value.

In order to get first-hand information to supplement existing aerial photographs it was decided to send patrols to both the east and west coasts of Bougainville. Two submarines were requested and received, one for each coast. The patrols were organized by I Marine Amphibious Corps, since the major information desired was purely military. However, in order to provide expert opinion relative to hydrography, qualified naval officers were included.

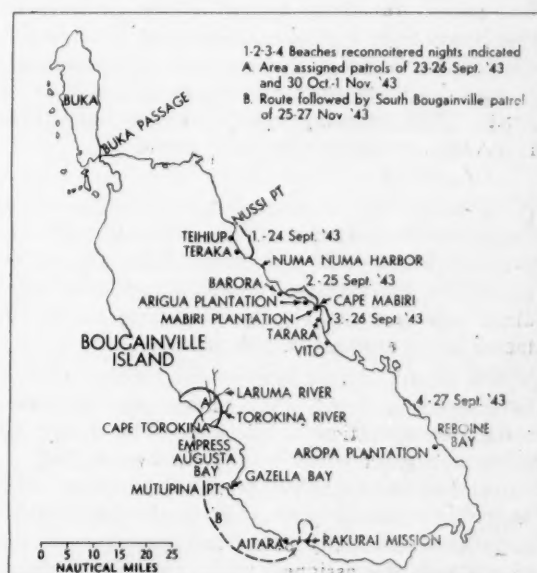
The patrol for the east coast consisted of two marine officers, two naval officers and ten enlisted marines. A New Zealand naval officer and four natives, all familiar with the area in question, were also included. The submarine to which this group was assigned reached its position off Bougainville on 23 September 1943. The mission of this patrol was to seek only beach and hydrographic information along the center stretch of the east coast. Because of the specialized nature of this patrol all personnel, including the natives, had received intensive training in the day and night use of rubber boats,

as well as practice in locating the submarine at night.

In order to accomplish its mission the patrol split the length of beach into four approximately equal sections and decided to devote one night to each section. The patrol accordingly split up into four rubber boat crews; one pair of boats operating the first and third nights, the other pair of boats operating the second and fourth nights. The operating boats left the submarine after dark and proceeded to the shore. Once there, beach and hydrographic reconnaissances were made until about two hours before daylight, when the boats returned to the submarine. The submarine remained submerged during the day.

Only two incidents marked the operation of these patrols. Once, a rubber boat was sharply challenged in Japanese just as it beached. The crew remained frozen but the challenge was not repeated. After waiting an appropriate time the boat crew shifted its position along the beach and proceeded with its reconnaissance without further trouble. The second incident occurred the third night when one boat crew failed to contact the submarine. Extracts from the boat officer's report give a vivid description.

"At 0230, after failing to contact the submarine, we decided to put out to sea where the submarine might pick us up by radar. Later we learned that the sub had left at 0230, at which time we thought



Recon patrol routes on Bougainville.

we heard their motor. At dawn we were approximately eight miles to sea. At 0530 two Jap aircraft passed overhead. They were clearly visible at 4,000 feet, but apparently they did not see us and passed without strafing our rubber boat.

"After the planes had passed we decided to land on a small island and wait until night. A few minutes later we spotted a periscope and decided we were safe, but when the sub surfaced it appeared short and we couldn't see its three-inch gun so we decided it was Japanese. Not wanting them to capture our guns we threw them overboard. Then we found it was our sub and at 0600 we boarded her."

This patrol completed its assigned mission the night of 27-28 September 1943, and the submarine proceeded back to base, where the patrol was interrogated by marine and navy intelligence officers. The information gained filled in many gaps in existing hydrographic and beach intelligence. Sufficient information was available to institute planning for an operation if the decision was made to conduct one against this section of Bougainville.

While the east coast of Bougainville was being surveyed, another patrol had been put ashore on the west coast in the Empress Augusta Bay area. In organizing this patrol the question arose as to how large to make it. The absolute lack of information on the area gave rise to the fear that the patrol might encounter the enemy, so it was decided to make this a large one for its own protection. Consequently, the patrol was composed of two marine officers (one was patrol commander), one army officer who was a radar specialist, three naval officers who were hydrography and airfield specialists, one Australian naval officer who was a guide, 30 marines including photographers and communications personnel with radio, and four native guides. When this patrol was being formed it was pointed out that it was to be a reconnaissance and not a combat patrol and to make it too large would seriously hamper its movements as well as decrease its security. This reasoning was duly considered but the final decision was for the large patrol.

THE patrol left its submarine to go ashore on 23 September 1943, after dark, and was not heard from until the night of 26 September 1943, when it rejoined the submarine. The radio had been taken along merely to enable the submarine to be contacted in an emergency, but none arose.

The results of this patrol were awaited eagerly, for the official mind was leaning more and more toward an operation in this area. The disappointment was great when it was discovered that the patrol had accomplished few of its missions. The fault was primarily poor patrol leadership, but secondarily an unwieldy patrol and too large an area to cover in the assigned time. The patrol officers were unable to plot the course they had pursued or the various swamps and other terrain features they

had encountered. Even the native guides were unable to help. Only two pieces of information of value were brought back, one being an excellent set of photographs of the beaches, the other the fact that no evidences of the enemy were found. The patrol believed that airfields could be built but could only generalize as to the location and size.

The high command now had available the results of ground reconnaissance of all possible objectives as well as intelligence from other sources. Weighing the pros and cons, the decision was finally made to land part of the New Zealand 3d Division on Treasury and Stirling Islands on 30 October 1943, and the I Marine Amphibious Corps at Empress Augusta Bay on 1 November 1943. The mission of each force was, in general terms, to seize and defend the area assigned to it, and to construct airfields. These operations were to be preceded by a large-scale diversion in the form of LtCol Krulak's battalion raid on Choiseul.

ONCE the decision was made as to the scene of operations, it was found that more patrols were necessary. The Navy needed pilotage information about the waters between Treasury and Stirling islands, so on the night of 22 October 1943 a PT boat placed a two-man New Zealand army patrol ashore on Treasury. This patrol rounded up six or eight natives who had good knowledge of the waters and persuaded them to come to Guadalcanal. The patrol and natives were picked up the next night and returned to base. The natives proved invaluable, even to the extent of piloting lead vessels in the restricted waters on D day.

The night before D day the New Zealanders returned one sergeant to Treasury with the mission of cutting Japanese telephone wires discovered by a previous patrol. This he successfully accomplished, and he rejoined his own forces shortly after they swarmed ashore. His feat may have been the reason the Japanese never were able to concentrate the few troops they had to oppose the landing.

As D day for the Empress Augusta Bay landings approached, the Corps commander became more and more concerned over the opposition which could be expected on the beaches. With nothing known of any enemy defenses, no adequate air or naval gunfire plan could be drawn. In a last-minute effort to find out what opposition could be expected, another patrol was landed in the Empress Augusta Bay area from a submarine on D minus 2 day (30 October 1943). This was a marine patrol headed by a field officer and accompanied by an Australian coastwatcher who knew the area. This patrol also was furnished a radio in order to communicate its discoveries to the flag ship. The mission assigned was to locate hostile positions from which the landing might be opposed and radio the location to the flag ship. In the event the radio failed, the patrol was to light a

large fire on the beach as the fire support ships hove into sight to indicate that no major opposition was present. Gasoline was taken along to insure that a fire could be started. Absence of a fire, and of radio communication, either meant that the patrol was captured or that opposition in force was expected.

As the ships pulled into their assigned areas on D day there had been no radio communication from the patrol and no fire was visible. The worst was feared, but fortunately the landing encountered only light opposition. And, as soon as the assault waves were well ashore, the patrol emerged from the jungle waving a large American flag. Everyone was so glad of the safety of the patrol and so preoccupied with the landing that no one thought to inquire why the patrol hadn't signaled the ships, and there the matter rested.

As the records show, the I Marine Amphibious Corps established its assigned perimeter against savage opposition by relatively small forces, and against almost inhuman odds of hills, jungle, swamp and heat. The question immediately arose as to what the Japanese reaction would be. There was only one road leading from the east to the west coast over which the Japs could move men and supplies to concentrate against the landing forces, but unfortunately air reconnaissance of it was unsatisfactory because of the jungle canopy. This road was about five miles inland from and parallel to the south coast. It was decided to observe this road for 24 hours to see what traffic was moving on it and thus attempt to estimate what the Japanese reaction would be.

Accordingly, about 25 November 1943, a small patrol of highly trained and experienced personnel from the raiders, accompanied by native guides, was transported by PT boat to the south coast of Bougainville at night and placed ashore. The party took one day to make its way through enemy patrolled territory to reach the road and then remained in observation of the road for one day. The patrol leader was very thorough, jotting down in his notebook every vehicle and individual he saw. He even recorded the number of telephone wires visible along the road. He sent members of his patrol laterally along the road to determine the nature of bridges and character of the road itself.

BEFORE returning to the PT boat on the third day the patrol leader purposely dropped a previously prepared officer's dispatch case containing a marked map and faked order indicating that the Empress Augusta Bay landings were a diversion and that the main landings were to be made on South Bougainville. Whether this plan was ever found and had any effect is, of course, unknown but it is a significant fact that the Japanese did not move troops from Southern Bougainville to the vicinity of the beachhead for well over a month later.

The information brought back by this patrol, coupled with other intelligence, gave reasonable assurance that the Japanese were not yet ready to move against the beachhead. The Corps commander, therefore, was enabled to employ his force in preparing the defenses of the beachhead with more freedom and security than he would have had otherwise.

THE history of amphibious reconnaissance patrols did not stop with the seizure of the Bougainville beachhead, but no patrols from this time on in the South Pacific ever proved of the same value as those described. Green Island was patrolled without incident prior to its capture. Several patrols were sent to New Ireland and off-lying islands when plans were being made for the capture of this island, but they were mainly coastwatchers' patrols and accomplished little. A patrol to Emirau before the seizure of that island did indicate that it was free of enemy. With the mopping up of the South Pacific, amphibious patrolling found less and less employment. There were some excellent amphibious patrol opportunities in the Central Pacific, notably in Guam; they were never exploited, however.

An examination of the record of amphibious patrolling in the South Pacific teaches no new lessons but it does emphasize the importance of adhering to the old, established principles. The record established beyond a shadow of a doubt that well-planned, aggressive patrolling is feasible and pays big dividends. It effectively laid to rest the idea that it is unreasonably dangerous and costly. Not a man was lost on all these missions. Patrols *were* costly—to the enemy.

Where the principles of good patrolling were followed religiously, the patrols invariably brought back the answers to the questions they were sent to seek. Where established principles were violated, as in the assignment of too many missions, or improper organization, effectiveness fell off sharply and results were a disappointment. The record demonstrates that patrols can best be accomplished by those units having specialized training in amphibious patrolling. Where personnel without this training were assigned, the activities of the patrol were sharply curtailed.

Above all, the successful record of this type of patrolling in the South Pacific does not mean that nothing more can be learned about it. To the contrary, it emphasizes the necessity of continuing training and study along these lines to perfect the technique against future use. Improved means of transportation indicate that amphibious patrols of the future may operate on objectives at distances that today seem impossible. Training and thought must be directed along these lines so that we may be fully prepared to exploit the possibilities of this means of seeking information. **END**

Island Coastwatchers

Pacific island war worked an unhailed but courageous band of fighters who contributed immeasurably to our victory over the Japanese aggression.

Behind the scenes of the

By J. L. Zimmerman

IF THERE be such a thing as an unsung hero of this war, most assuredly he is the coastwatcher. Cut off from material aid by hundreds of miles of enemy-held land and water, surrounded by an alien people in constant fear of reprisals at the hands of the Japs, he carried out his job of reporting every move of the enemy and giving assistance to Allied pilots shot down or forced down.

When the First Marine Division was poised to strike at the Guadalcanal area in August 1942, there was little information available and little time to gather any. No maps of the area existed aside from sailing charts whose accuracy left much to be desired. Most of the people with any information were in Australia and, even then, their information was, at times, inaccurate.

One source of detailed, up-to-the-minute advice, however, was functioning at the time and continued to function well and accurately from then until the end of hostilities in the area. The coastwatchers at their stations inside Japanese-held territory were submitting daily reports of enemy activities. As ship, plane, and troop movements were taking place, they were reported by men who were actually watching them.

At the outbreak of the war, several young men in the employ either of the government or of one or another of the great British and Australian trading companies were enlisted as counter-espionage agents for the territory in which they worked and with which they were familiar. Their primary duty, at that time, was to keep an eye open for Fifth Column activity among the natives. Generally they were given commissions or warrants in the Australian navy.

When the Pacific War broke out, their duties became more hazardous and of much greater immediate importance. The rapid advance of enemy forces made the establishment of an espionage system of any other kind impossible. The vast distances involved made it out of the question for anything but submarines or an occasional long-range bomber to conduct any kind of on-the-spot reconnaissance. It was, however, of vital importance that the activities of the enemy be reported, and it was in accomplishing this that the coastwatchers made their first great contribution.

The entire Solomon Islands chain was dotted with them. They operated from the westernmost parts of Bougainville to the islands of San Cristobal and Malaita at the southeastern end of the district. They lived in the bush, equipped with small but

Every war produces a full crop of men who succeed so in capturing the official or the public notice that they are dubbed heroes. The general who displays a genius for leadership and the private who performs some feat of entirely personal valor enjoy well deserved praise and admiration. Concurrently there exist other men whose efforts are no less deserving of praise and no less spectacular but who are engaged in such work that its very existence—sometimes even the existence of the men themselves—cannot be admitted. The scientists, for instance, who for more than six years have worked steadily and anonymously in the shadow of the utmost secrecy are a case in point. Another group, however, worked under a similar lack of publicity from the earliest days of the war under conditions of a peculiarly dangerous nature. These were the coastwatchers.

powerful radios, with which they sent daily reports of happenings in their vicinity. They watched and reported the Japanese occupation forces move to the southward, down the island chain; they watched the development of the airfield in the Lunga Point neighborhood, and they reported that.

In some cases they operated with a good deal of freedom—in Choiseul and in Vella Lavella there seems to have been little immediate danger. In other localities, however, the life of the coastwatcher was a touch and go affair as long as the Japanese operated in the vicinity.

In Guadalcanal, for instance, a British district officer, one W. F. M. Clemens, had elected to remain behind to do what he could to keep up a flow of information regarding enemy activities. He organized his native constabulary force of about 18 men as scouts and spies and enlisted the services of a great many loyal natives to act as his informants. He lived in constant danger—several of his camp sites were bombed immediately after he had left them—but he succeeded in radioing information of inestimable value. He had been commissioned immediately, as had his colleagues, so that in the event of capture he would not be treated as an ordinary spy.

During the entire time of the Japanese occupation of the Solomons and before the Americans had succeeded in gaining a foothold there, reports con-



The loyalty of the natives to the coastwatchers aided the defeat of the Japanese.

tinued to come from the numerous stations. These reports, sent out coded from stations having only call signs and never identified by name or location, came at first through a clearing station in Australia, whence they were relayed. After the First Marine Division had struck in August 1942, Capt Clemens had come down out of the hills to give what assistance he could to the newcomers. The Americans were given the call signs and the key words used by the coastwatchers, and from that time on all information came in direct.

Other men operated on the same island in a like capacity—the Reverend Father De Klerk, for instance, not only remained at his post when the Japanese first arrived, but even after the advent of the American forces he decided to stay behind the enemy lines and continue to supply information. Later he branched out and helped organize and direct patrols. He communicated with the Americans by means of ground panels and by runner sent to the coastwatcher nearby who operated a radio.

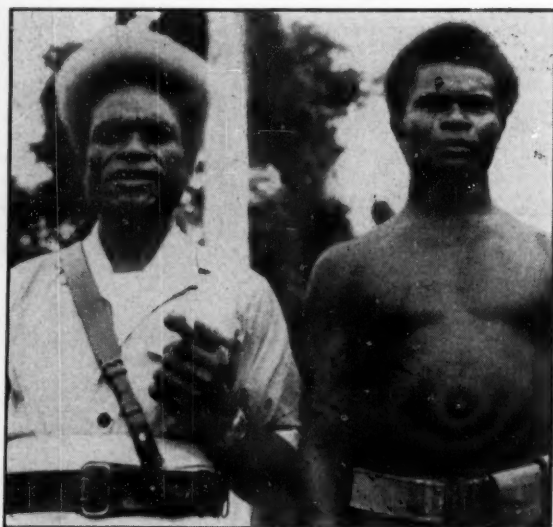
An outstanding example of the immediate and vital importance of some of the warnings given by the coastwatchers to the northwest of Guadalcanal is taken from reports of the early days of the fighting on that island. On 8 August, shortly before noon, warning was received by the commander of the transports that were unloading supplies for the

recently landed troops that a strong force of enemy bombers headed in the direction of the newly established beachhead had been sighted by coastwatcher Bougainville. As a result, when the planes, two-engine medium bombers from Rabaul, arrived, they found that preparations had been made to meet and to repel the attack, which in effect was done with some loss to the enemy. One transport was lost—the *George F. Elliott*.

With the establishment of fighter planes on Henderson Field and with the consequent increase in the number and ferocity of dog fights and interceptions on enemy bombers in the vicinity, the coastwatchers began to take on another and more spectacular role—that as rescuers of Allied pilots shot down or forced down. Aviation records are full of tales told by these lucky young men, tales of having been picked up by friendly and efficient natives, fed, clothed, and carried to the station of the nearest coastwatcher, and then sent back to duty.

An airman shot down or forced down near any of the islands in the group had a fair chance of being brought back to his own lines, provided he could make his way ashore. All but a very small minority of the natives apparently were loyal to the local coastwatchers, and they had been thoroughly instructed as to rescue procedure.

On 15 January 1943, a young Marine captain flew his F4F-4 from Henderson Field, as part of an



Native guards acted as coastwatchers' G-2.

escort protecting a group of dive bombers from the same field. Trouble caught up with the captain half way up the island of Santa Isabel, between that island and New Georgia. His plane was damaged in a dog fight, and he made a deadstick water landing, taking to his rubber boat. On 18 January, he succeeded in reaching Santa Isabel, near a small island called Farena, and since he was unable to find either food or water on the main island, he set out once more to paddle to the smaller one.

Halfway there, he was met by a canoe full of natives, who, upon finding that he was American, took him to their village, where he was bathed and fed and otherwise well cared for. The next day he was carried by canoe down the coast to a second village. A night's rest put him in shape for a trip across the mountains to the opposite side of the island, and still another canoe trip to the coastwatcher's station.

Here he was cared for and allowed to rest for several days, before being ferried to Tulagi. He was the sixteenth guest of the kind that the coastwatcher had played host to.

On 4 February 1943, an Ensign Hollandsworth, flying a TBF, took off to help deal with a force of twenty enemy destroyers bound for Guadalcanal and thought to be bringing reinforcements for the retreating Japanese forces on that island. He was shot down, landing in the water near the southeastern tip of Choiseul. He and his radio gunner, Adcock, took to the rubber boat and had begun working their way ashore when a group of natives in a canoe picked them up and took them to a small native village on the island. There they found two other guests, the crew of an SBD that had had a similar mishap.

During their four-day stay, the two crews were treated with the utmost kindness. Two of them,

Hollandsworth and Lt Murphy of the SBD crew, then set out with a strange native who said he could take them to the coastwatcher. Then followed a trip in several stages, by canoe and afoot, that seemed to be planned in every detail. At one point near the end of the trip, a note was received from the coastwatcher they were about to visit, assuring them that the whole affair was strictly bona fide. When they finally arrived, they were well received, and the coastwatcher radioed for assistance in getting them back to Guadalcanal.

Later in the same year, Ensign Malcolm Lawty took off in a TBF with two crew members as part of an escort for eight destroyers that were bound for Vella Lavella on a rescue mission. Due to a failure of his radar and a heavy overcast, he became lost and finally hit the water. He and his crew members did not succeed in reaching land until the seventh day, when they rode the breakers ashore on Choiseul.

A native left at once with a message to the coastwatcher, and in the meanwhile, a canoe trip brought them to a small native village. Here a native, Gordon Pambulu, who had studied medicine for four years at Fiji, tended them. Shortly thereafter, the answer from the coastwatcher came and they went the short distance to his station. There they rested, ate, slept and finally were returned, ten days later, by Dumbo, the PBY rescue ship.

These tales are but a few of many that can be found in reports from the area. In all cases of which record has been kept, there is mention of the fact that as soon as the natives, who found the aviators, had been convinced that they were not dealing with Japanese, there was practically no limit to the trouble they would take on behalf of the pilot.



Tree-telegraph made a communications net.

Combat Motor Transport

Experiences in the

Pacific and Europe proved that the rapid advance of Allied troops could not have been accomplished without modern tactical and logistical vehicles.

By Maj Frank A. Long

IN ANY appraisal of the implements of modern war, motor transport must be given high evaluation. The rapid advance and withdrawals in the European theater could not have been accomplished without modern tactical and logistical vehicles. By closing the Burma Road, Japan applied a stranglehold on Allied operations in that theater.

The Stilwell Road carried some 100,000 tons per month, three times the air capacity over the Hump, and that was a one-way mountain road. That may seem like a lot of supplies, but actually 100,000 tons a month will maintain approximately only three divisions.

The Stilwell Road illustrates a paradox about motor transport. It emphasizes the value of logistical vehicles as a rapid, if expensive, means of furnishing supplies, and it graphically denotes capacity limitations of such vehicles.

Combat vehicles may be classified as either logistical or tactical, in accordance with their current use. Logistical vehicles are those vehicles functioning in the services of supply, evacuation and maintenance. Tactical vehicles are those serving combat units as command and reconnaissance cars, prime movers, weapons carriers, troop carriers, communication vehicles, etc. Take for example the one-ton 4 x 4, the prime mover for the 37mm anti-tank gun of the infantry regiment. When the regiment is displacing, this truck serves as a tactical vehicle, since it is used as a prime mover. Once the gun is in position this same truck can be and is used as a logistical vehicle in supplying the regiment.

The mission of transportation is furnishing means for movement of personnel and materiel in the amounts and in the time required. With this in mind, it should be explained that motor transport in combat organizations of the Marine Corps is a compromise between the amount needed to carry on prolonged battles on land and the much smaller amount needed for establishing a limited beachhead. The Army organized for the former type of operation, equips its infantry divisions so their logistical vehicles have a capacity of 1,750 tons. This is in contrast with the marine division, which has a truck capacity of 1,300 tons.

A further comparison between Army and Marine transport is in distribution. In the former, trucks are allocated to regiments and battalions, while in the latter the great majority of vehicles remain concentrated under division control. Again this is an outgrowth of the amphibious mission of the Ma-

rine Corps. It is entirely conceivable—even probable—that the zone of action assigned an assault regiment is entirely void of roads. The adjacent zone might have a fair road net. Having all trucks under division control enables the logistics officer to assign them when and where they can be used to the fullest advantage. Now, let's examine our two main tactical units, the infantry and artillery regiments, with respect to the adequacy of logistical transportation.

Organic to the infantry regiment, the only logistical vehicles available are the 13 one-ton trucks, eight of which are prime movers for the 37mm guns. We realize, then, that transportation from some other source must be procured in order for these regiments to function. There are two solutions to this problem.

First, the division may take upon itself the task of delivering supplies to the regiments, since the regiments do not possess adequate transportation. This is termed "unit distribution," i.e., the higher echelons delivering to the lower. It necessitates attaching to the regiments few, if any, of the 2½-ton cargo trucks from the MT Bn. The second solution is for the division to attach portions of the MT Bn to the infantry regiments, thereby providing them with means for picking up their own supplies. This is termed "supply point distribution," in other words the lower echelons picking up their own supplies from division distributing points. Under this system, sufficient transportation, usually one truck company, is attached to each infantry regiment.

Because of the types and number of organic vehicles in the artillery regiment, this organization rarely, if ever, must request additional trucks. The following example shows how this regiment utilizes its transportation.

The 1st Bn, 12th Marines, having received orders to displace forward in direct support of the 9th Marines, goes about it in the following manner: The 12 2½-ton 6x6 SWBs, which act as prime movers for the 105mm howitzers, also carry approximately 90 rounds of ammunition and key personnel. On arriving at their new positions, the howitzers are set in position and their prime movers remain in the same general location so as to be readily available should the battalion have to either displace forward again or withdraw on short notice. The remaining 12 2½-ton SWBs, which serve in the capacity of ammunition vehicles, continue to move ammunition into the new position. In addition to the vehicles mentioned above, the battalion also

has nine one-ton trucks with which to move personnel and supplies.

The Marine Corps is organized and its equipment is assigned on the basis that its primary mission is amphibious. In addition to the limitation on the number of vehicles which can be transported, this presents other complications. The manner in which trucks of the MT Bn will be employed during and after the landing phase depends upon numerous factors which include the availability of roadnets inland from the beach areas, the tactical employment of the elements of the landing force and the type of operation, whether it be ship-to-shore or shore-to-shore. In general we can say there are two methods of handling this problem:

- (1) To retain the logistical vehicles of the MT battalion under centralized control or,
- (2) To attach elements of this organization to tactical organizations.

For purposes of security and to prevent a total loss of these valuable trucks due to loss of shipping, elements of the MT Bn always are divided among the ships of the convoy. However, such action by division does not entail attaching a portion of these trucks to each regiment. In the orders covering such an employment it might well be stated that the trucks are being placed aboard the various ships for transportation purposes only. Such action relieves the regimental commander of responsibility for handling these vehicles during and after the landing phase. Who is responsible for the landing of this equipment and control over it when ashore and until such time as division comes ashore and begins to function? Under the majority of current doctrines on shore party functioning, the division SP is responsible for the landing of all equipment, no matter to whom it is assigned.

Normally one truck platoon is assigned to each LT for transportation to the target area. The truck platoon commander then is responsible for these trucks once they hit the beach and until control is consolidated under division. Another way of getting approximately the same results is by attaching the truck platoons to each of the LTs, with orders that such units will revert to division control upon landing.

CLOSE attention must be paid to the employment of the MT Bn during and after the landing phase of an amphibious operation. For the landing on one of the Pacific islands the truck platoons were attached to the LTs. Once the landing had been accomplished it was found that virtually no road existed anywhere in the division zone. It was then necessary to initiate plans to collect all logistical vehicles of the MT Bn and hold them under division control until such time as suitable routes of egress could be established from the beach. However, when this was attempted it was found extremely difficult to collect this equipment, since it was spread all along 6,000 yards of beach. In some

cases, LTs had even attempted to force their way inland over swamp land, using 2½-ton cargo trucks as supply vehicles.

Needless to say, this resulted in destruction of some valuable transportation, and salvaging the rest was extremely difficult. Had this same equipment been retained under division control and landed in previously specified and more suitable areas, most of the difficulties mentioned above could have been averted.

Where conditions ashore are favorable, the second method of handling transportation, attaching the truck platoons to landing teams, is permissible, even advisable. Some of the conditions which favor such employment are:

- (a) Where an LT, or CT as the case may be, is being assigned a separate mission.
- (b) Where suitable routes of egress exist.
- (c) Where the initial advance inland is apt to be rapid.

IN SUCH cases the division shore party will still be responsible for the unloading, but once ashore the attached MT unit will come under the jurisdiction of the commanding officer of the unit to which it is attached. Control and operation of this unit will be under supervision of the logistics officer of the organization which it is servicing.

Since the operation of the Marine Corps is predicated on the assumption that its units, after landing and seizing a beachhead, will be relieved by the Army, the amount of transportation of all types is limited. However, in some instances that "beachhead" encompassed a large island or a major portion thereof. In such cases additional logistical vehicles must be furnished the divisions involved.

To demonstrate how such a problem may be solved, we will assume that the III Corps, consisting of the First and Third Divisions, plus Corps' troops and other reinforcing elements, has been assigned the mission of seizing the island of X, which is approximately five miles wide and 50 miles long. The initial landing is made on the south coast. Initially and until such time as the divisions pushed 20 miles inland, the organic transportation would suffice for their needs. However, beyond this distance they begin to feel the lack of adequate logistical transportation.

On what other sources can they draw? As a supply agency the Corps would undoubtedly have a service regiment with its organic MT Bn, in addition to the Corps' own MT company. Since Corps will have need of all its own transportation for the purpose of supplying Corps troops, its vehicles won't be available to the divisions. This then leaves us only MT Bn of the service regiment. This organization consists of a headquarters company and two cargo companies. The two cargo companies each have 13 one-ton cargo and 28 2½-ton cargo trucks, and these are used to push or shuttle supplies within reach of the divisions. An alternative

would be to attach portions of this battalion to each of the divisions, thereby allotting them the hauling of their own supplies all the way from Corps' installations to their own assault elements.

By the first method, the Corps has instituted unit distribution to its divisions, and by the second it proposes to use supply point distribution. This illustrates again the part played by transportation in influencing the supply officer to decide what means of distribution he will employ.

The subject of control is emphasized to unit commanders of all echelons continuously. In the field of transportation it is as important as in tactics. In transport it embodies two tasks—control in the sense of proper allocation so that all units are adequately serviced at all times, and control with respect to upkeep and maintenance of the vehicles themselves. The need for additional transportation by the units of a division is in a continual state of flux. A regiment or CT that may be urgently in need of 2½-ton cargo trucks today may have no need whatsoever for them tomorrow.

An examination of the special staff of the division reveals that an MT officer is included in it. His duty entails control over all the vehicles within the division. From time to time he will be directed by G-4 to supply such a unit or officer with so many trucks of a certain type. To accomplish this expeditiously, he must at all times maintain a running count on the number that have been deadlined or destroyed and the location of the remainder.

The second obligation imposed by control, as stated before, is that of servicing and maintenance. The proper discharging of this obligation is essential if a unit is to function correctly, and the responsibility for it can be assigned only to the commanding officers of all units which possess trans-

portation. In the infantry especially, officers are apt to forget everything except the proper tactical employment of their organization. Too few remember that the accomplishment of a unit's mission depends in part on supply, and supply depends on transportation.

Duties of Maintenance Echelons

1st Echelon—Operator of the equipment, regardless of location or organization, will provide proper care in use, cleaning, preservation, and inspection, including minor repairs and adjustments.

2nd Echelon—Specially trained personnel of the using organization, battalion or regiment will provide additional advice, supervision, and technical assistance over and above those who perform 1st echelon maintenance. However, the latter will normally participate in these operations.

3rd Echelon—Division and separate organizations will repair and replace specified assemblies and repair overflow from lower echelons, and supply spare parts to lower echelons for repairs in their field.

4th Echelon—Service regiments will have an established pool of variable numbers and types of maintenance units, will serve all forward echelons with a higher degree of skill, and a larger assortment of parts and assemblies, and will rebuild major items using serviceable assemblies and assemblies obtained from stock, or from unserviceable major items.

5th Echelon—Service depots and continental depots will provide service maintenance in rear areas, utilizing fixed installations to completely recondition materiel, perform reclamation and limited manufacture.

MARINE CORPS ASSOCIATION

HEADQUARTERS, U. S. MARINE CORPS, WASHINGTON 25, D. C.

Please enroll me as a member of THE MARINE CORPS ASSOCIATION entitling me to all ASSOCIATION benefits, including a one year subscription to THE MARINE CORPS GAZETTE and a 10% discount on all book purchases from THE GAZETTE BOOKSHOP.*

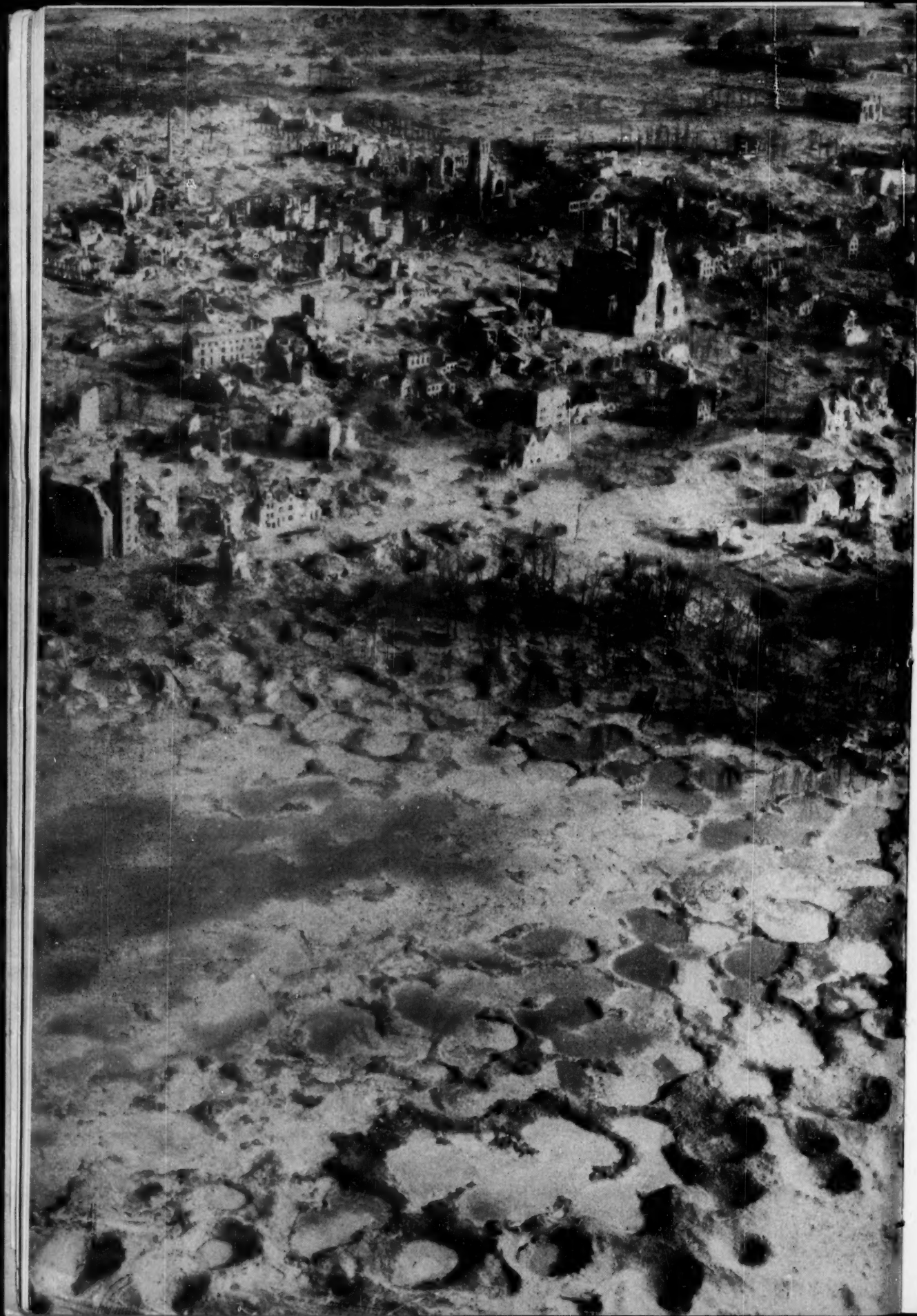
I enclose my check for \$3.00 ☐ Cash ☐

Name _____

Rank _____ Corres. No. _____

Address _____

* Membership in THE MARINE CORPS ASSOCIATION and benefits therefrom included if applicant is a member of the armed forces.



Strategic Air Power

As an assault arm, strategic air power has reached a complex stage of development. This authoritative digest should prove valuable regardless of atomic or jet developments. (First of two articles.)

AT THE time General Admiral Hans Georg von Friedeberg, arrogant Prussian commander-in-chief of Nazi forces in the north was asking Marshall Montgomery for permission to surrender three German armies in much the manner of a schoolboy asking leave to go to the basement, the thousand-year Reich lay prostrate, disrupted and gutted by thousands of tons of high explosive and incendiaries, laid on the target by a weapon which vaulted lines of battles and shattered war-making nerve centers to the rear.

This was one of the salient facts to be drawn from the annihilation of Germany by the Allied powers in World War II—militarily a paradox. An enemy nation was destroyed as an organized, industrial, productive community almost before her defending armies were wiped out.

The weapon was the heavy bomber. Its role had begun crudely in World War I. It had been kept alive in our own air force during the truce between wars by a group of "fanatics" within the Army Air Forces who concentrated on the construction of an aerial freight car to carry a load of bombs to and drop them on a target. They pursued a premise that sooner or later it would be possible to build a fleet of bombers which by themselves could wipe out the vital industries of an enemy nation. Germany today offers gaunt testimony to the validity of their premise. Her bridges are down, her canals ruptured, her harbors fouled, her rail yards wrecked, her cities gutted, many of her factories skeletons of twisted steel.

The machinery of this destruction was the B-17 and an accurate bombsight.

At the time of Germany's declaration of war on the U. S., she sat snugly within her fortress Europe, growing daily stronger through her savage and efficient exploitation of her conquered neighbors. She appeared to be in a position to beat off conventional ground attacks indefinitely.

In formulating a plan for the defeat of a Germany so securely situated, the heavy bomber was assigned the mission of laying waste German industry to a point where the enemy's ability to equip and maintain his armies was sufficiently reduced to allow some chance of success to a ground invasion. This decision was reached in the face of a fresh and costly German failure to bomb Britain out of the war—which cast doubts on the conclusiveness of bombing—and the British abandonment of day-

German cities were left grim ghosts in the wake of the Strategic Air Forces.

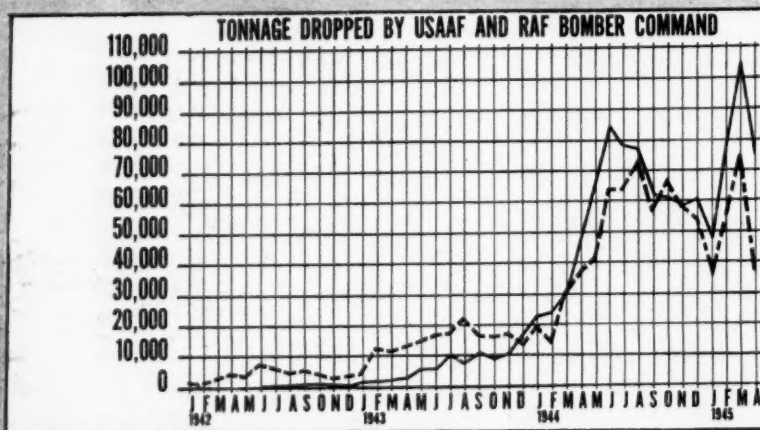
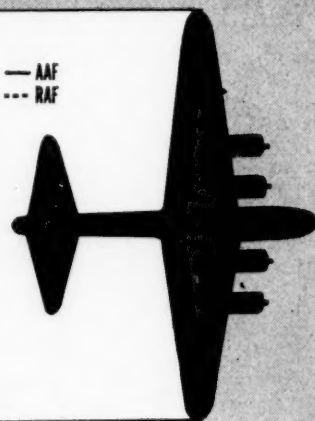
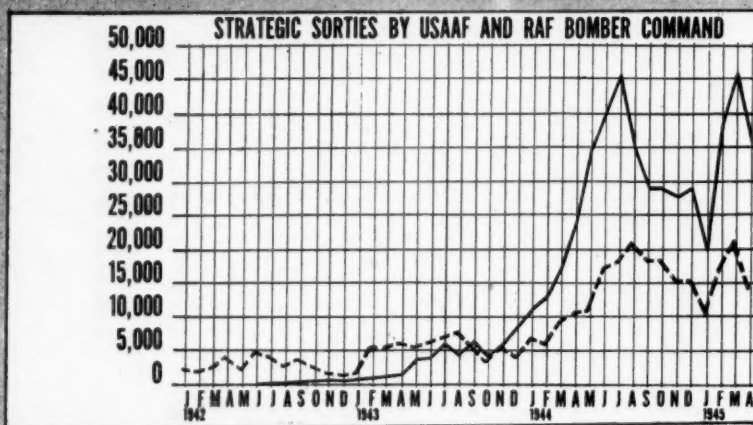
Pattern for the Future

EDITOR'S NOTE: *The following is a digest of a descriptive analysis of the technique, development and effect of strategic and tactical bombing against Germany as presented in two special issues of IMPACT, magazine of the Army Air Forces, and by the U. S. Strategic Bombing Survey Report. So the GAZETTE offers a condensation of these two reports in two articles—one on the strategic campaign and one on the tactical. It does so because IMPACT and the U. S. Strategic Bombing Survey Committee have accomplished a competent and authoritative resume of one of the determining weapons in the reduction of Nazi Germany; and because neither in part nor in whole has any estimate of the over-all effect of the employment of aircraft in the European war been widely available to marines.*

As an assault arm, air reached a more elaborate and complex stage of development in Europe than in the Pacific. Strategic and tactical problems differed widely in the two theaters and the techniques of overcoming difficulties peculiar to the continental target are of professional interest to marines both in the line and in aviation.

The development of atomic explosive will not necessarily obsolesce nor invalidate the conclusions to be drawn from the experiences of the Army Air Force over Germany. The Regensburg and Schweinfurt missions established beyond all question that heavy bombers cannot be stopped from getting to a target and hitting it—if the powers that be are willing to pay the price and the strike is pressed with determination. Change the load from the conventional blockbuster to the atomic bomb, and one has simply intensified the type and extended the radius of destruction. Jet and rocket propulsion, it can be anticipated, will develop on an approximate parallel offensively and defensively. As factors, they serve largely to magnify the wrecking range and step-up losses. The principles remain unchanged—but the ante and the stakes have gone way up.

THE BOMBING RECORD



In the course of the war, the RAF unloaded a greater tonnage on German targets, but the USAAF flew more strategic sorties from June 1942 until Germany's final collapse.

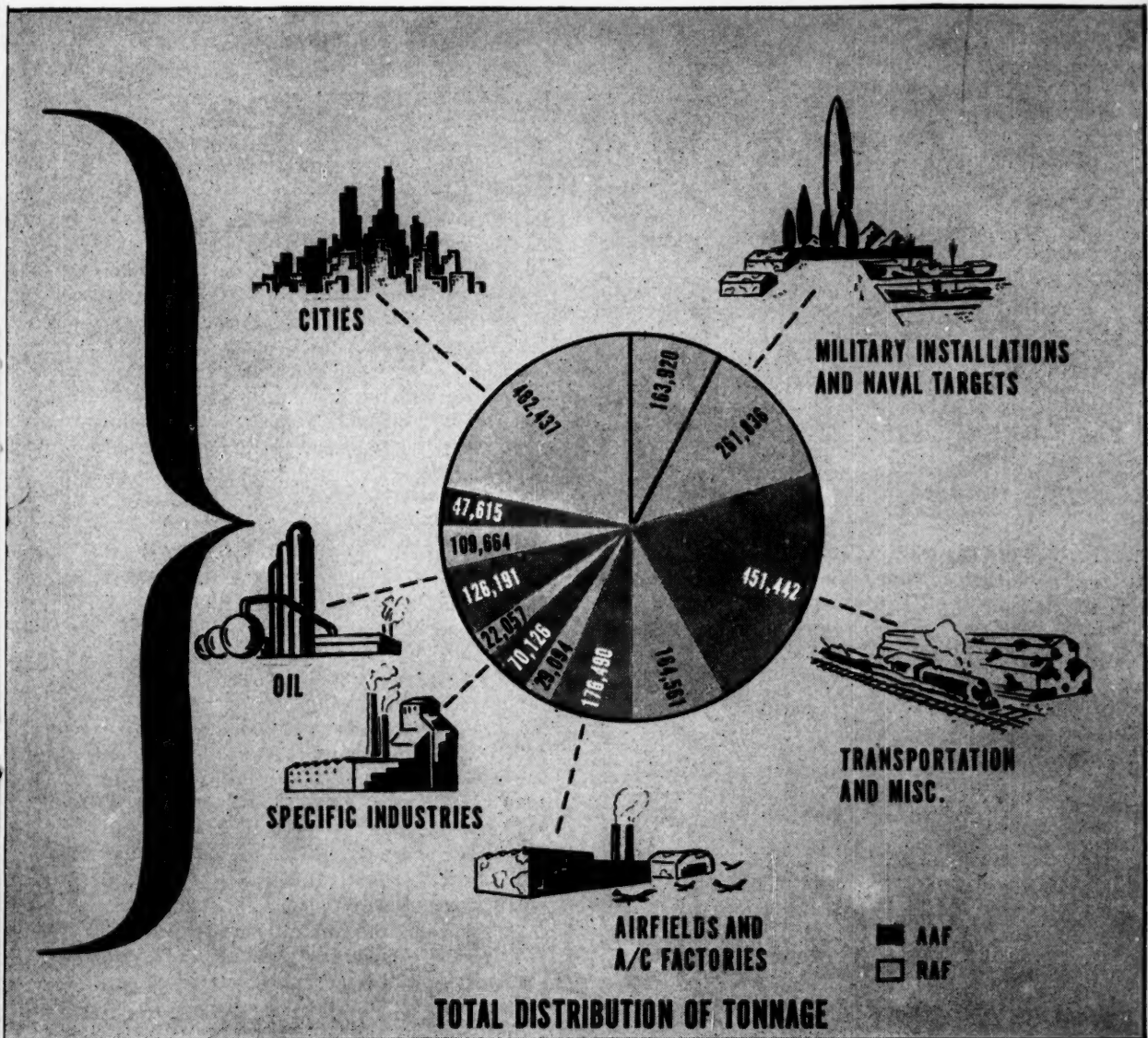
light bombing due to prohibitive losses.

The campaign was launched with the then infant 8th Air Force hitting the submarine pens at Lorient, St. Nazaire and Brest with attacks coordinated with RAF strikes against Kiel, Wilhelmshaven and Bremen. In November 1943 the 15th Air Force based in Italy joined up. As these air forces grew in strength, and tactics improved, the bombers struck deeper and harder into Germany.

The strategy was carefully planned. The Luftwaffe had to be beaten down and the way to cripple it was by destroying the aircraft industry. Transport was next—a slow, thankless but eventually a decisive job. Finally, oil, an expensive but immensely successful campaign. These particular campaigns were carried through in concert with a

general campaign against Nazis manufacturing of all sorts.

When the strategic air force was all through, of Germany's eighty large cities, not one had escaped damage of less than 30 per cent and others were as much as 80 per cent destroyed. The results of the 400,000 tons dropped on railroads between March 1944 and April 1945 are testified to by Alfred Krupp von Bohlen und Halbach who stated that transport was the greatest bottleneck in production. General Feldmarschall Karl Gerd von Rundstedt gave evidence for the military. Analyzing the three prime factors of defeat in the west, he selected as one the systematic destruction of all railway communications "so that it was impossible to bring one single railroad train across the Rhine."



On the targets indicated in the chart, the AAF dropped 1,035,784 tons of explosive, while the RAF bomber Command unloaded an additional 1,069,643 tons on the targets.

The priority campaigns against oil and aircraft bore like fruits. Oil production for the month of March 1944 was 1,344,000 tons; in April of 1945, it was 99,000 tons. Aircraft factories bombed out cost the Nazis 10,000 planes between 1 August 1943 and 30 September 1944. As for the success of the battle against the Luftwaffe, Goering's successor, Feldmarschall Robert Ritter von Greim is quoted, "I am head of the Luftwaffe, but I have no Luftwaffe."

In the process, the strategic air force dropped more than a million tons of bombs. The cost was great—in excess of \$27,000,000,000. But it was more expensive for Germany.

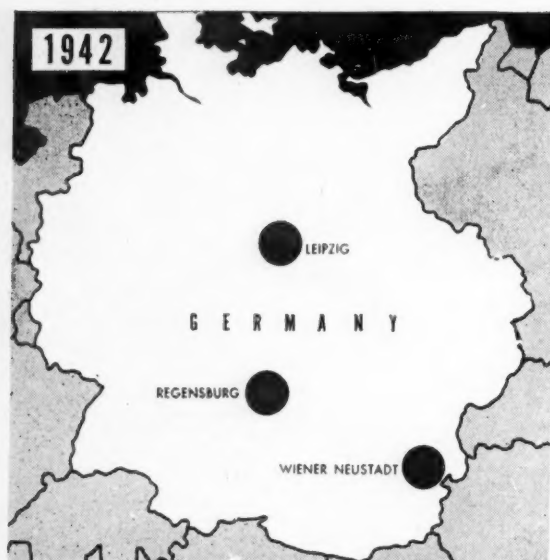
In terms of aircraft, a substantial fraction of the 18,418 plane losses suffered by the American Air

Force in the ETO was lost by the strategic unit. But Germany lost more—over 30,000.

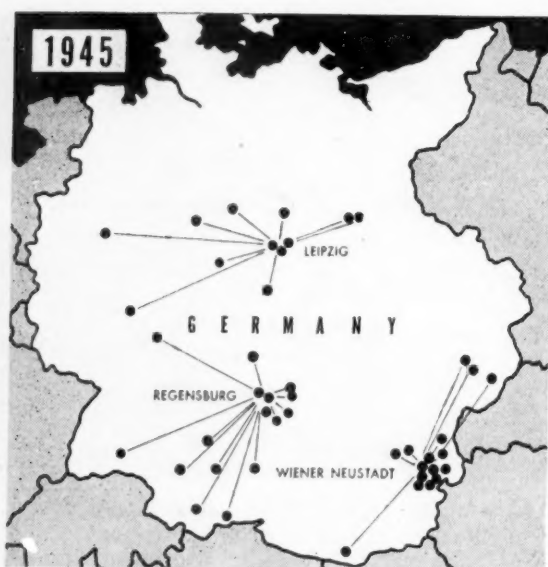
The bitterest price the United States paid was in men—24,288 killed, 18,804 wounded, 18,699 missing and 31,436 prisoners. But once again, Germany's casualties were far higher. Exclusive of air personnel, 305,000 were killed and 780,000 wounded.

However costly, the strategic mission was accomplished. British and American troops swept ashore in Normandy, secured a beachhead, broke out of the perimeter, tore across France and into the heart of Germany. The army that faced them was partially paralyzed for lack of transport and unable to reorganize effectively for lack of adequate material.

A fundamental in the strategic campaign was the



Early in the war, ME109's were produced at industrial complexes in these three cities.



The Germans dispersed the industry after strategic air force attacks—but too late.

conception of England as a giant base. From this base, the 8th Air Force was committed to daylight bombing—pinpoint type to complement the saturation attacks against area targets that the RAF was mounting at night. The Americans compensated for the reduced bomb load carried, due to the added weight of the armor and armament, by aiming every bomb at a selected industrial target. The real virtue of the American method was that if the proper targets were chosen it might be possible to cripple German industrial and military power through the destruction of one or two key industries without

which the military economy as a whole would be unable to operate.

So the combined offensive was launched, the heavies of the 8th struck at major industries on the urban fringe while the RAF razed the city itself together with the smaller factories within its borders. This combination of effort, as the bomber forces grew in size, resulted in the virtual elimination of a succession of producing centers. For example, the 8th, at Magdeburg hit the top-priority synthetic gas plant at Rothensee, the Junkers aircraft engine plant, the Krupp works at Buckau and an ordnance depot at Friedrichstadt, collection and distribution center of the Buckau output. The RAF smashed the city itself, and with it transport, worker homes and facilities, and razed a large part of the factories in this highly developed industrial center.

As this combined offensive progressed, old techniques were revamped and new ones developed. The RAF improved its bombing to the point where it could no longer be correctly described as area bombing. With the decline of the GAF, lightly-armed Halifaxes and Lancasters executed enormously damaging daylight missions against synthetic oil plants.

The rate of production in the United States and the supply problem arising from the distance separating the base and the manufactories forced the 8th into a modest start. Strikes against the U-boat pens, bases and later, construction yards from November 1942 until June of the following year were troublesome but over-all accomplished little. In the summer of 1943, equipped with greater hitting power and more planes, the attack on German industry was launched—with aircraft plants the number one priority.

At this time, the aircraft industry was centered in a few big complexes. Quickest results would be obtained by hitting assembly plants and time was of the essence. In the beginning, numerical inferiority and lack of long range fighter escort made it a bloody job. On July 28, the 8th hit Oschersleben—the deepest penetration into Germany up to date—to blast a plant that was turning out 50 FW 190s a month, about a fifth of the total output. Forty-eight enemy fighters were destroyed in combat—but out of 28 B-17s on the mission, 15 were lost. The famous doubleheader against Regensburg (whose ME 109 assembly shops accounted for 30 per cent of German fighter production) and the ball bearing plants at Schweinfurt, threw 147 against the former and a larger force at the latter. Beginning at Eupen, the 15-mile column ran the gauntlet of a determined fighter defense in depth all the way to the target. The Nazis used 20mm cannon, rockets and air to air bombing. Sixty Fortresses were knocked down but Regensburg was heavily damaged. As the 8th became stronger the attacks continued in steady crescendo. In 1943, 5,092 tons were dropped on 50 plants. In 1944 the monthly average increased 16 times. Records show

Germany acceptances of ME 109s to have skidded from 725 in July, to 536 in September, to a low of 357 in December.

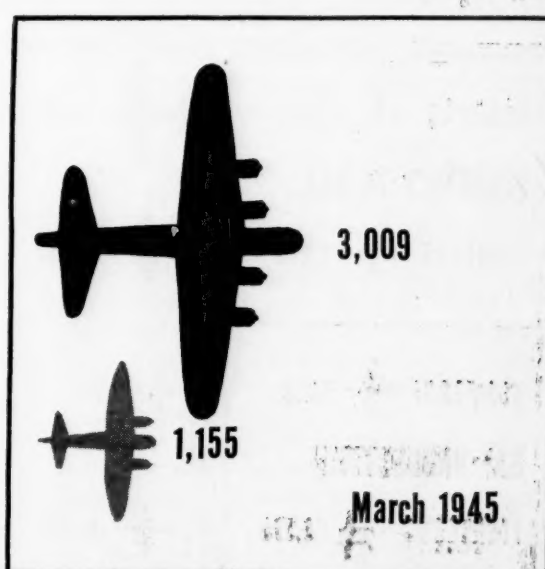
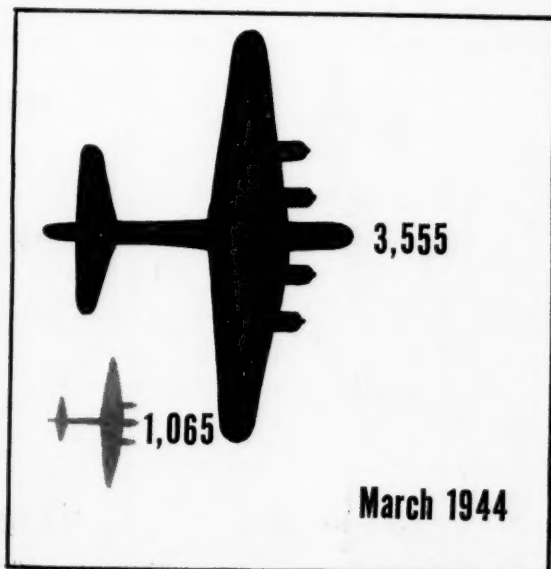
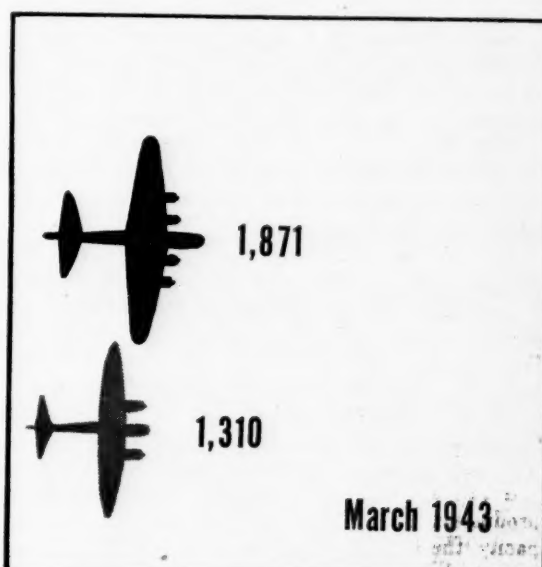
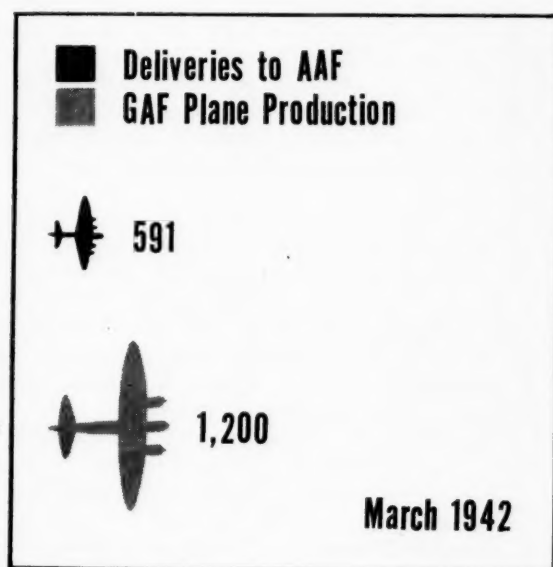
The peak came the big week of 19-26 February 1944. Combined RAF-USSTAF sent 8,148 bombers over the continent, with fighter escort as was now the rule, and dropped more than 19,000 tons of bombs. Regensburg, which the Nazis had made strenuous efforts to repair, was revisited by 613 heavies—and wiped out for the second time.

The aircraft complexes were being hammered out of existence. It was disperse or die. The Nazis dispersed.

Strangely enough, during 1944, Nazi plane production increased. A variety of factors contributed

to this contradiction and show it to have no measure of the effectiveness of the attacks. The German aircraft industry had substantial excess capacity. Its efficiency was low. Early production was small because the Luftwaffe's requirements were modest. Late 1943 saw heavy production emphasis laid on fighters which take less time to make than multi-engined planes. This saving, plus stepped-up efficiency and ingenious and speedy plant repair, tended to absorb the shocks of the attacks. In addition, plant subdivision and dispersal made the targets more difficult to hit.

But there was a contradiction within the contradiction. In the face of increased production, the star of the GAF was waning. U. S. bomber escorts



The four charts show all aircraft delivered to the AAF as compared to the German output. In weight per aircraft, the U. S. superiority was even greater than shown.

were ordered to depart from their SOP of bomber protection and invite opposition from German fighter forces and engage them at every opportunity. This tactic alone cost the GAF nearly 3,500 fighters in the first three months of 1944, spent experienced pilots who could be ill spared, and wreaked havoc with the organization and combat strength of squadrons and groups.

On paper the facts do not jibe—even when consideration is given to Hitler's 1944 edict that the jet propelled ME-262 be converted to a fighter-bomber. It is true that the Luftwaffe failed to recognize the advantages of this type and did not rush it into operation. But, its conversion delayed production further at a time when this plane, in the hands of experienced pilots, would, of itself, have sharply increased U. S. losses. But, accounted for or not, by spring of 1944 the Luftwaffe ceased to be effective. German air generals have stated that on D day, Normandy, the Luftwaffe could muster a pathetic force of only 80 planes against the landing.

With the defeat of the GAF, the master link in the chain was shattered. The way to the heart of Nazi fighting power and to the arteries of transportation that fed it was clear.







Oil then moved to the top priority spot. The German fuel position was traditionally unsound. A controlled economy, preparing for war and careless of the cost of the process could and did develop large stores of low grade coal as a source of synthetic oil. The three major synthetic districts were in the Ruhr, Silesia and Leipzig. In addition, Nazi conquests had won them all the crude oil in Europe. Although sabotage, slowdowns, inadequate pipelines and rail service, and inefficient plant kept actual production at about 60 per cent of theoretical capacity, the Nazis still had what oil they needed and some to lay by.

The campaign was aimed at the refineries, 80 in all, and 24 synthetic plants. The 8th and the 15th split the six concentrations three and three, the former drawing Hamburg, Leipzig and the Ruhr; and the latter, Silesia, Vienna and Ploesti. In May, 11 targets were hit, some two or three times. In June '43, the effects were disastrous. The German High Command, faced with skyrocketing consumption to combat a large-scale Russian offensive in the East and the Normandy invasion in the West, found its production reduced almost by half. Reserves, apparently generous, were shrinking dangerously.

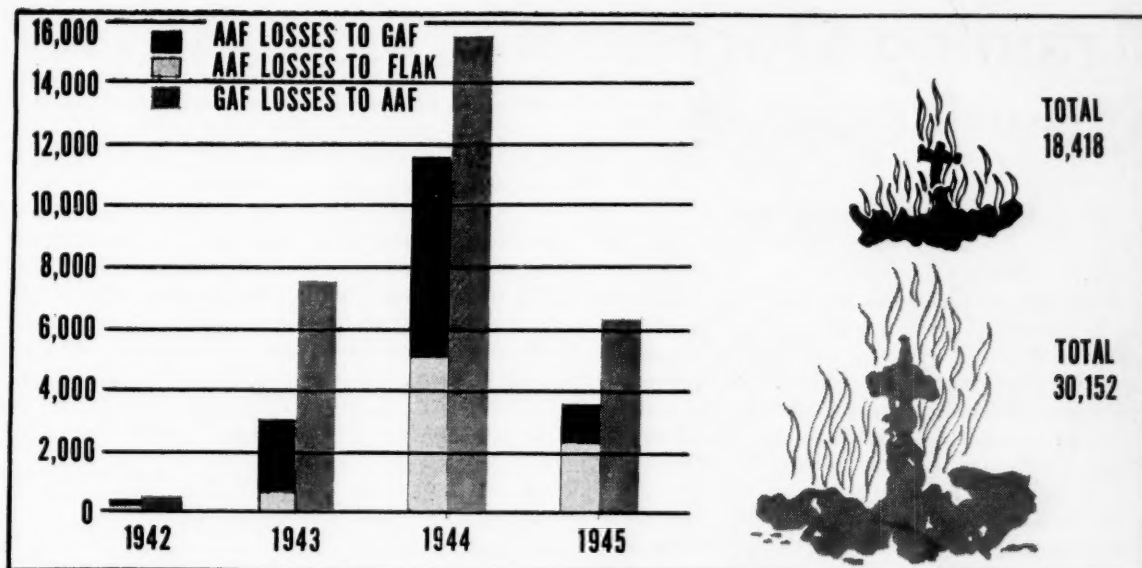
This was only the beginning. By August, production was down to 37 per cent. Ploesti, 9/10ths destroyed by the 15th was overrun by the Soviet Army. The 15th redoubled their efforts against Vienna and Silesia. The RAF joined the attack. The squeeze was on. The densest concentration of flak the world has ever seen, the remnants of the Luftwaffe could not save the refineries. Dogged resourceful repair and reconstruction put the plants back into production—at which point they were bombed again.

Luena, largest of the synthetic plants, is a good case in point. It was guarded by a highly effective smoke screen and the heaviest AA concentration in Europe. Air crews regarded a mission to Leuna as the most dangerous and difficult assignment of the air war. Leuna was hit on May 12 and put out of production. A force of several thousand men had it in partial operation in ten days.

It was bombed again on May 28, resumed partial production on June 3, and reached 75 per cent capacity in early July. Struck again on July 7. In production again 2 days later and to 53 per cent of capacity on July 19. Hit again July 20, shut down for three days, and a week later back to 35

BOMBERS ✈ 5,827 DELIVERIES TO AAF FIGHTERS ✈ 5,213	 15,022  11,766	 20,116  18,291	✈ 5,658 ✈ 5,842
BOMBERS ✈ 6,615 GAF PRODUCTION FIGHTERS ✈ 6,575 1942	✈ 6,155  9,995 1943	✈ 3,000  16,035 1944	✈ 20 ✈ 4,175 1945

The Germans shifted their production from bombers to a preponderance of fighters.



GAF losses were mainly in fighters, while the AAF air losses were largely bombers.

per cent capacity. Two more strikes on July 28 and 29 closed it up. Others on August 24, September 11, 13, 28, and October 7 kept it closed. Leuna got started producing again on October 14, was interrupted by a small raid November 2, but succeeded in reaching 28 per cent capacity by the 20th. Six more heavy attacks, whose effectiveness bad weather sharply reduced, were thrown at it, but Leuna limped along at 15 per cent capacity from January until the war's end. The fight took an entire year, more than 6,500 bomber sorties and 18,300 tons of bombs in 22 attacks (two by the RAF). From the first attack to the last, the vital Leuna works averaged 9 per cent of their capacity.

Consumption of oil exceeded production from May 1944 on. The shortage grew acute and punishing. In August, the final run-in time for plane engines was cut from two hours to one-half hour. For lack of fuel, pilot training, previously reduced, was further curtailed. By December, the shortage had reached catastrophic proportions. The desperate counter offensive was forced to count on capturing Allied stocks and when this did not materialize, many panzer units were lost when they ran out of gas. In February and March of 1945, the Nazis massed 1,200 tanks at the Baranov bridgehead at the Vistula to stop the Russians. Immobilized for lack of fuel, they were overrun.

The attacks on the synthetic oil plants also cost Germany its supply of synthetic nitrogen, methanol, and a good part of its rubber. The nitrogen necessary for munitions was, for a while, obtained by borrowing from allocations for agriculture. Supply finally reached the point where it was inadequate for munitions alone and the Nazis resorted to filling shells with a mixture of explosive and a non-explosive rock salt extender. At the end of the war,

there was a general shortage of ammunition on all fronts.

The interlocking nature of the German industrial economy, which increased bombing effectiveness is well demonstrated here and in the effect of the oil attacks on rubber. One of the major plants at Huel was attacked as a primary target in June 1943 and closed down. It was restored to production after seven months. However, it depended for operation on gas from the Ruhr plants and when they were wiped out in the summer of 1944, output fell off sharply. Rubber from the largest of the synthetic rubber factories at Schkopau was cut off because of the plants' dependency on Leuna for hydrogen.

After the oil campaign, emphasis was shifted to transportation. There are certain peculiarities inherent to a rail target worthy of consideration. A rail system is essential to all components of civilian and war economies. It cannot be moved, dispersed, go underground, or be effectively camouflaged. It is so large that it cannot be well-defended and almost always some part of it not cloud-obscured despite generally overcast weather. A rail system is also subject to attack by all kinds of aircraft. Furthermore, there is no inherent flexibility. Heavy attacks within a certain area can be compensated for, in part, by shifting to other transport, but lost capacity cannot be balanced by expansion elsewhere as in the case in manufacturing. The effects of air attack are cumulative because capital investment is exceptionally high and damage cannot be replaced at a rate comparable to the potential rate of new damage.

When these factors are balanced against the overall-size, flexibility and initial excess capacity of the
(Continued on page 56)

Training Our New Reserve

By Capt Arthur Rose

AS THE nation settles back to the routine of peacetime, much discussion is being given to postwar military training. Although the methods and plans for compulsory military training have not yet been approved, it is assumed that such training will not be of long duration nor will it keep the trainee in contact with the military when a national emergency does not exist.

This war has proved the necessity and importance of trained technicians in all arms of the service. Such personnel must be trained and thoroughly schooled if a combat unit is to be successful. The nation's manpower reserve can be quickly tapped and trained as infantry but the training of technicians requires much more time, experience and thorough familiarization with their duties. With the recent scientific advancement in warfare the needs for reserves of technicians become more apparent.

The demands for technicians in any future national emergency will greatly exceed the demands of the past. The regular standing units of the service cannot be expected to supply the technicians at such a time. The next available source of trained or semi-trained troops are the organized reserve units. These units must supply technicians for any future emergency as they have infantry-trained troops in the past.

For the purpose of studying the advantages of such a training program and reaching hypothetical answers to our questions, let us study a proposed situation:

Reserve Battalion "A" is located at "X" city. The table of organization for the battalion calls for a provisional service company with an ordnance platoon, a motor transport platoon, a signal platoon, an engineer platoon and an aviation repair platoon. Each platoon will study the use, maintenance and repair of the materials used by their respective arms.

LET us further study a proposed schedule for a platoon, taking the ordnance platoon for example.

The ordnance platoon is commanded by Lt H., USMCR. Second in command is GySgt L., USMC, a qualified master ordnance technician. GySgt I has been assigned to Battalion "A" by Headquarters, Marine Corps for a specified time after which he will be ordered to a regular school for a refresher course. The balance of the platoon's personnel consists of eight men who were former ma-

rine ordnance technicians, four men who served in the marine infantry, two veteran marine artillery men, four men who are veterans of other branches of the service and twenty men who have recently completed their compulsory military training. All of these men, other than GySgt I. are employed in civilian positions or are students.

The ordnance platoon has an area assigned to it in the city armory. This area is equipped with work benches, tools and machinery taken from obsolete mobile repair units. The regular duties of the ordnance platoon is to maintain and repair the weapons for the battalion. The balance of their training period is devoted to study, training and actual work in the mobile repair units which are assigned to their battalion from time to time.

A NUMBER of mobile repair units could be stocked with the latest equipment and operated by trained instructors. These units would be assigned to specific areas and be dispatched to the different reserve battalions for such periods of time as would be deemed advisable. The duties of these units would be to inspect the equipment of the battalions, aid the battalion personnel in making necessary modifications, instruct the battalion personnel in the use of the mobile repair unit, present and give instructions on new equipment and present the latest educational films.

A typical year's instruction for the ordnance platoon might include instructions from such units as small arms, artillery, instruments, fire control, tank and generator engine repair and a special unit of all types of disarmed fuses and munitions for instructional purposes.

The mobile repair units for the other arms of the service could be operated in much the same manner. Some might argue that such methods would not be profitable to use in training technicians for the repair of large and heavy equipment. Such items as aircraft engines and instruments could easily be transported to desired locations for use in instruction. Special units for ignition and carburetion systems could also be utilized.

The technicians receiving such training would be living in their own homes, paying for their own subsistence and receiving only such compensation as they would regularly receive for participating in organized reserve activities. The cost to the government would be in transporting the materials and the instructors to the technicians and not the cost of bringing the technicians to the material and the instructors.

It is not intended that such a training program would supplant the necessity of professional marines nor even the basic training needed for members of reserve units. It is believed that such a program would aid greatly in maintaining a balanced reserve that could quickly be activated in event of an emergency, and would be of great benefit in expanding and training the Corps.

Occupation at Tsing Tao

When the Sixth

Division went ashore in China, their mission was to affect the surrender of the Jap garrison but they soon learned the situation had complications.

By 1stLt Alan I. Shilin

TO THE Sixth Marine Division went the mission of making first landings not only in Japan but also at Tsing Tao, strategic Chinese port-city on the 125 mile-long Shantung Peninsula, key to the North Chinese Coast.

The Fourth Marines (reinforced) of the Sixth Division had already carried out the historic occupation of Yokosuka Naval Base on 30 August 1945, going ashore under the bristling guns of the Third Fleet in Tokyo Bay.

Scarcely had the Fourth set sail for Tokyo Bay, than the Sixth Division commenced its preparations for the occupation of Tsing Tao and Shangtung Peninsula.

LtCol Thomas E. Williams, intelligence officer of the division, immediately set his section in motion in an effort to acquire all pertinent information on the new theater of operations. Shantung Peninsula was an extremely volatile and strategic mark on the map and there was little time in which to collect and disseminate the quantity of information necessary prior to embarkation.

Shantung Province, which is roughly the size of Illinois, is bounded by Kiangsu Province on the south, Honan Province on the southwest, and Hopeh Province on the west and northwest. The Shantung Peninsula is a projection of land, 125 miles in length, which separates the Yellow Sea and the Gulf of Chih Li, on the south and north respectively. The Province is 56,399 square miles in area.

Its capital city, Tsing Tao, has increased steadily in population during recent years, largely due to the influx of people who have sought a haven of refuge from bandits and clashing political factions in the interior. To these people, the city offered law and order as well as commercial advantages. Tsing Tao now contains an estimated population of 1,300,000, while Greater Tsing Tao—which includes two outlying districts arbitrarily joined to the city by the Japanese—boasts approximately 2,500,000. The city, built on a promontory on the southern coast of Shantung Peninsula, is considered one of the finest ports in China, having the most extensive port facilities north of Shanghai. Tsing Tao is second only to Shanghai, in China, as a textile manufacturing center and contains some heavy industry and railroad repair yards.

The strategic importance of Shantung Peninsula was evident to the Germans prior to World War I and they proceeded to occupy, hold, and develop the area. It was wrested from them at the end of World War I by the Japanese, who, appreciating

the importance of the peninsula to the security of the Empire, were moved to join the Allied cause.

By occupying the peninsula, the United States would at one stroke be in position to dominate the Yellow Sea, the Gulf of Chih Li, Korea, and Western Japan. An American fleet based at Tsing Tao could operate with facility in the adjacent waters.

Shantung Province has been a complex problem throughout the age-old history of China, and its complexity has even increased in modern times.

The great Chinese Revolution, out of which came the beginnings of a new dynamic China, dissipated its strength before exterminating the traditional warlords of Northern China. In Shantung Province, these neo-feudal bandits succeeded in maintaining their grip on the area and prevented the formation of a strong central government that would have destroyed them. This situation in Shantung, as well as in most of Northern China, was a fertile one for the land-greedy Japanese who had long cast covetous eyes on the area. After sowing the seeds of chaos in the province, the Japanese moved in against virtually no resistance in late 1937. In fact, when the Japanese came in through the door of the Yellow River, the Governor of Shantung, Han Fu Chu, went out the window and headed south without even offering token resistance.

BUT it was not long after the Japanese moved in that the country commenced to rumble beneath them. If Shantung Province looked like a flower-garden from across the Yellow Sea, the Japanese soon learned that there were thorns among the petals. They learned it as soon as they sat down.

A three-sided struggle for power brewed in Shantung Province and since has developed increasingly in intensity. The Japanese, the Chungking or Kuomintang Chinese, and the Communist Chinese, all appreciating the tremendous strategic and political importance of the area, have made strenuous efforts to win it. The Japanese made extensive use of puppet troops—thereby adding another complicating factor to the infinitely complex labyrinth of violence and intrigue.

Of these puppet troops, many were out-and-out collaborationists; others were the original warlords and their followers—whose continued existence still depends on the Japanese; others were Communist and Chungking agents who had infiltrated into the ranks; and the majority were simply local peasants and city dwellers who had chosen the easiest way in which to protect their lives and property.

To add to the complexity of the problem facing



Gen Shepherd receives the sword of the Japanese commander in the Tsing Tao area.

the Sixth Division prior to its occupation of Shantung Province, was the significant European colony found in Tsing Tao. Though the White Russians were expected to be predominantly pro-Ally, it was believed that several had been organized under the Japanese for anti-Soviet propaganda purposes. The Europeans were expected to be pro-Ally but of the sizeable German colony, many had been organized into a Nazi Bund during the war.

I

Prior to the embarkation of the division for Shantung Peninsula, the situation was as follows: The Japanese in Shantung Province controlled little more than the principal city and major transportation routes between them. Small scattered areas in Shantung Province were being held by pro-Chungking forces. The majority of the puppet forces had already reached a state of dissolution and were either preparing or had already commenced to sell out. By far, the largest areas in Shantung Province were under the control of the Communist Chinese, which fact was due to a considerable extent to the proximity of the province to the core of Communist China and its vast and impenetrable distance from Chungking.

The Communist Chinese had continued to nibble away at the fringes of the Japanese-controlled pockets even following the termination of the war. They had made particular efforts to wrest control of the vital rail lines between the cities of Shantung, caus-

ing some action to flare along those lines between Communist forces and Japanese-puppet forces. The Chungking Government issued an order to the Japanese to the effect that until properly relieved (in other words, until their surrender had been made to the Chungking representatives) they were to maintain their possession of the railroads—even resorting to counter-attack if the situation required it.

This was the situation that existed when the Sixth Division embarked at Guam's Apra Harbor and set sail for Shantung Peninsula on 2 October 1945.

For MajGen Lemuel C. Shepherd's veterans of Guam and Okinawa, their primary mission was clear; to affect the surrender of 42,850 Jap troops in Shantung Province. It was anticipated that by the time of the landing this number would have increased substantially. Due to their expressed reluctance to surrender to Chinese Communist forces, the Japanese could be expected to move much of their personnel and equipment to the coastal city of Tsing Tao. Again, there would be a Japanese civilian problem. (It was estimated that 37,000 Japanese nationals were living in Tsing Tao.)

But the division was cognizant of an even more serious responsibility facing it on Shantung Peninsula. It was being sent to occupy what could be called one of the keys to the Orient—one of the pivots of global destiny. Shantung Peninsula could be a powder keg, it could be a nest of Civil War. Its successful occupation would require the maxi-

mum efficiency, diplomacy, and discipline within the ranks of the division.

Shantung Peninsula could be either a happy land combining the ancient pastoral serenity of the Chinese landscape and the brimming cosmopolitan excitement of Tsing Tao—or it could be another grim chapter in the series which included Eniwetok, Orote Peninsula, the Asa Kawa, and Sugar Loaf Hill.

In either case, General Shepherd's marines were ready.

II

It was as though the division were retracing the past as it moved toward the future. On 2 October 1945, the convoy steamed out of Apra Harbor, past the sheer cliffs of Orote Peninsula which, as the First Provisional Marine Brigade, it had wrested from the enemy. Heading northwest, the convoy retraced the path of that gigantic armada which had landed the division with the Tenth Army on the west coast of Okinawa. From the rails of their APAs, the men strove to make out the rugged coastline of that strategic island on which they had fought the last great battle of World War II.

Then the convoy sliced through the tepid waters of the East China Sea, still headed northwest, and the men prepared for their landing at Shantung Peninsula. These were the veterans of many landings, but never had the prospects of a new beach seemed as bright. To the northwest lay Tsing Tao, and beyond it, visible through their fervent hopes, lay "home."

While aboard the APA *Dade*, the division command-ship, General Shepherd stated the mission of his command:

"Our mission is to land and occupy Tsing Tao and the adjacent Tsangkou Air Field; to assist local authorities in maintaining order and in preventing disease and starvation; to release, care for, and evacuate Recovered Allied Military personnel and Allied internees; to cooperate with Chinese Central Government forces; to accept, when necessary, local surrender of Japanese forces, as authorized by higher authority, and to assist the Chinese in effecting the disarming and confining of these forces."

It was evident that General Shepherd appreciated the absolute necessity of stating the mission of his division in so vital and volatile an operation so that not the slightest vestige of doubt might exist in the minds of any of the parties involved. At Tsing Tao, General Shepherd restated the mission of his forces to the Chinese people of Shantung Province in lucid, direct, sympathetic language.

Based on communications at sea with higher echelons and with the division advance party, it became apparent as the convoy approached the Yellow Sea that the landing at Tsing Tao would be a peaceful one. General Shepherd then transferred with members of his staff to the fast DE *Newman* and headed for Tsing Tao. The party arrived well

in advance of the convoy and was able to supervise the initial landings and occupation ashore rather than at sea.

Though the convoy was scheduled to appear off Tsing Tao on 10 October, a typhoon brewing in the Yellow Sea made headway difficult. The harbor was reached on 11 October and landings commenced in the afternoon.

Tsing Tao's excellent harbor, which in the days before the war had sheltered the U. S. Asiatic Fleet during the summer months, once more was jammed with men-of-war and merchantmen and once more viewed the spectacle of marines coming ashore.

III

Complex as the situation in Tsing Tao was anticipated to be prior to landing, the actual situation made even the remotest predictions seem conservative.

It was discovered at the outset that Tsing Tao was in fact a beleaguered city. The Communist Eighth Route Army was flung about the outer rim of the city, watching and waiting. Between the Communists and the streets of Tsing Tao were the Japanese, who were holding the perimeter of defense. Inside the city seethed a mass of humanity which included Communist agents, Chungking representatives, puppets, brigands, Nazis, White Russians, Japanese military personnel, Japanese civilian personnel, Koreans, and a small group of Europeans and Eurasians. The countryside beyond the city limits contained, in addition to Japanese and Communist Chinese troops, no less than nine independent "armies" whose relations with either Chungking, Yenan, or themselves were highly speculative.

Since the cessation of hostilities between the United States and Japan, terror had been the motif in Tsing Tao. In the name of Chungking or Yenan, Chinese gunmen had put the squeeze on the whole gamut of nationalities that lived in the city; White Russians—trained in the art of living by their wits—had put the squeeze on the same gamut; the Nazis who had terrorized the city during the war now were being subjected to a little terror on their own account.

It was indeed a stroke of poetic irony that no group looked forward more fervently to the landing of the marines than the Japanese. Seated on the brawling bee-hive of Tsing Tao, the Japs were menaced by the Communists on the one hand and the chaos of gangsterism on the other.

This much was certain. In the long years of Japanese occupation, the city of Tsing Tao had festered into a horrible sore-spot—enough to drive an honest Occidental investigator and administrator insane. Virtually no one in the city worked for one political faction alone. The ordinary local official changed his creed as often as a Fleet marine changes his khaki trousers.

The United States had not come to China to sow

the seeds of Civil War. The Sixth Division was not in China to enter into conflict with the Communist armies nor to remold the internal structure of the country. The division had arrived to affect the surrender of Japanese forces and to turn the city of Tsing Tao over to the representatives of Generalissimo Chiang Kai-Shek. Insofar as any faction, Communist or otherwise, attempted to prevent the division from the accomplishment of its mission it was to be understood that this division was ready to go into action. Insofar as the internal political situation in Tsing Tao required Marine intercession in order for the mission to be accomplished, such intercession could be expected.

WITH this information made clear to all factions, the division settled down into the chaos of Tsing Tao and strove to create order.

Intelligence personnel plunged into the maze of records in an effort to determine the status of property, the records of individuals, the names of war criminals, the creators of terror in Tsing Tao. Operations went forward meanwhile to affect the surrender of the Japanese forces, to police the city, to billet and maintain the division.

The maintenance of a division in a city where such chaos existed was no minor task. Water could not be drunk unless it had been boiled. Intestine-splitting liquor was being peddled on the streets by unknowing Chinese coolies (this liquor had been made locally and bore standard American labels). Sanitary heads were an exquisite rarity; showers were virtually non-existent. Disease of every description was rampant. Inflation—that ludicrous but sinister disease—had the city throttled; (dinner, \$1,000; rickshaw rides, \$300; a pair of shoes, \$20,000). There were multitudes of prostitutes whose price (\$1,800) was slightly less than that of a tube of American toothpaste (\$2,000). Puppet troops now served as policemen, maintaining order in the city. There were beggars by the thousands. The city was overcrowded, having swollen almost $1\frac{1}{2}$ times its normal size. These and an infinity of other fantastic but very real problems presented themselves to a division of men charged with the necessity of living in a city for approximately 90 days, while awaiting the arrival of Chinese Central Government troops.

Until Central Government currency could be brought to Tsing Tao in sufficient quantity, a strong effort was made to stabilize the exchange at one American dollar to 2,000 Chinese Federal Reserve Bank dollars. To accomplish this important objective, it was necessary not only to throttle the insidious black-market money-changers who abounded in the city, but it was also necessary to hold the merchants down to reasonable prices. Only a determination on the part of the troops to receive nothing less than 2,000 Chinese Federal Reserve Bank dollars for their \$1 and their refusal to pay exorbitant prices in the city could possibly make

the plan work. For troops who had come up through the primeval jungles of Bougainville, through Guam, and then Okinawa it was not always easy to follow this rigid line. But the combination of indoctrination and the disappearance of fat bank rolls succeeded in teaching the men to stand firm behind the dollar sign.

When the division arrived in Tsing Tao, looting was prevalent on a broad scale. The victims were generally Japanese and Germans, enemy nationals, unable to protect themselves or their property. The perpetrators were generally ex-puppet troops supposedly maintaining public order or gangsters but actually taking advantage of the chaotic state of affairs. Houses and shops were entered after nightfall with flimsy excuse or by force. The residents were packed into one room and kept there at the point of a pistol while the building was ransacked. The local soldiers often entered these buildings under the pretense of being ordered to make an investigation for official purposes.

To stop lootings and stop them fast, several direct measures were taken. Marine patrols moved through the city with the mission of maintaining law and order. A system was installed whereby flying marine patrols (mobile units) could descend on a looted house in a very short time and trace the criminals before they got more than a few blocks away. And finally, pressure was brought to bear on the local administration to clean house and to rigidly punish such local soldiers who couldn't resist the temptation of loot.

During the first five days following the landing of the division, close to 50 cases of robbery and looting were reported. Thereafter, the number of cases reported fell to a figure less than would normally be expected in an American city the equivalent of Tsing Tao in size.

PERHAPS the strongest reason for the cessation of flagrant crime was the knowledge that though the Americans intended to be firm with enemy nationals they would not tolerate a reign of terror; in fact, would protect the lives and property of enemy nationals as well as of all people in Tsing Tao.

The Allied internees in North China had been confined at the Wei Hsien concentration camp. These Occidentals had already been rescued by American parachutists and were being evacuated to Tsing Tao. They were flown to Tsing Tao, where they were quartered at the magnificent Edgewater Mansions hotel awaiting transportation to Tientsin and Peking.

After a thorough investigation, the camp at Wei Hsien was found to be adequate. No cases of barbarism or mistreatment were reported, though the internees had suffered from exposure and malnutrition. As difficult as the long years had been at Wei Hsien, the internees themselves admitted that they had been most fortunate to have been



An MP at the Tsing Tao racetrack directs a spectator to the surrender ceremony.

confined there, considering the remaining alternatives.

Throughout the period the division maintained law and order in the city and prepared for the surrender of local Japanese forces, the closest liaison was affected with Chinese Central Government representatives. Chinese officers worked with Marine officers in the handling of civil and military affairs, lending assistance through their knowledge of the language and of the people. Plans were made for the transport of Chinese Central Government troops to Tsing Tao to take over the area and relieve the Americans. The details of the surrender of local Japanese forces on 25 October were worked out to the mutual satisfaction of the Allies.

At the same time, the Communist Eighth Route Army remained beyond the perimeter of defense manned by Central Government Irregulars and Japanese forces. No incidents occurred between Americans and Communists. Though it was known that Communist agents and sympathizers were in Tsing Tao, there was virtually no occasion to label a local disturbance as sabotage. The numerous factions in Shantung Province waged a sporadic war during this period, but the "war" was significantly lacking in scale and aggressiveness. Though there was difficulty in keeping the railroads open north of Tsing Tao, no organized attacks against towns adjacent to the lines of communication materialized.

Within the city, it was necessary to maintain firm control because of the existence of numerous opposed factions. Korean patriots had a private war against the Japanese overlords and collaborating Chinese. Nazis and anti-Nazis were gunning for each other. And the situation in Shantung had provided an influx of hoodlums for Tsing Tao.

By establishing liaison with these underground factions and impressing upon each the need for peace in the city and by showing an ability to use force swiftly and justly if that peace were disturbed, the division succeeded in averting numerous potential incidents. Because each opposing faction was so ready to inform on its enemies, it was possible for alert intelligence officers to keep their fingers on the pulse of underground Tsing Tao.

The record made by the Sixth Division in Tsing Tao, concerning the behavior of its troops, was indeed a remarkable one.

Immediately following the landing of the division, the men received numerous requests from Chinese and Europeans to evict Japanese civilians from the apartment houses and private homes of these individuals. In several instances, wily Europeans and Orientals told fictional tales about the Japanese in an effort to motivate them to use force on Japanese civilians. The mere appearance of a marine in a Japanese home or shop was enough to convince the families that they were about to be

evicted. And, of course, the language difference increased the complexity of the situation.

Physically, the city of Tsing Tao represented a problem to the division. As the result of its Germanic origins, Tsing Tao looked like a fragment of the Friesland or Westphalia rather than a Chinese port city. Its sparkling red roofs, solid European-style masonry, extremely modernistic hotels, and the strikingly magnificent cathedral which dominated the city did not check with the exotic postcard and travelogue representations of Chinese port cities.

From the deck of an APA, Tsing Tao was a wondrous city to see, but internally, the city had rotted during the long years of Japanese occupation. Individual buildings and public places had been permitted to deteriorate. Some of the finest homes were without windows and weeds grew along their sides. Public buildings, like public morals, had run down. Sanitation was virtually non-existent. To further complicate matters, the Japanese had removed local utility installations, such as pumps and power equipment, and shipped them to Japan.

In fact, Japanese occupation had been like a disease in Tsing Tao—a disease of almost a decade in duration. The Japanese had perched atop the heap of masonry and humanity that was Tsing Tao and allowed it to become infected. Graft and crime were encouraged by the conquerors because they were able to grab the lion's share of the loot. A criminal was never executed for any crime other than that of failing to pay off to the Japanese. They tampered with business and finance until all commercial enterprise in the city was unsound and fruitless. They prohibited the sale of opium in the city and set up an "Anti-Opium League" whose expressed purpose was to stamp out the moral vice. That was another way of saying that he who desired to sell opium would have to buy his opium from the "Anti-Opium League" and, because it was forbidden to buy opium, would have to pay a black-market price to the Japanese.

The Japanese method of paying off their undercover agents was typical of Japanese administration. Agents were never paid by their masters. They were expected to make their income through extortion and the price for keeping their positions was to supply information to Japanese intelligence.

IT was with a profound sign of relief that the people of Tsing Tao saw the last of the projectors of a "Greater East Asia." Immediately following the landing of the division, very few Japanese dared to appear in the streets. They waited until they were summoned on 25 October 1945 to appear at the Tsing Tao racetrack in force for the formal surrender to United States and Chinese Central Government representatives.

The 25th of October in Tsing Tao was a bright autumn day with a trace of chill in the air. A cool

wind scaled off the waters of Kiaochow Bay and knifed through the excited city. Marines, only recently removed from Guam, Okinawa, and the South Pacific, shivered in their field jackets. The White Russians appeared in the streets with the first vestiges of fur seen by many a marine in two years. But despite the cold and the indications of a Siberian winter perceptible in the air, the 25th of October was a holiday in Tsing Tao.

The rumble of feet marching in cadence shook the city as the 22d and 29th Marines moved out toward the race track. The streets were filled with Chinese selling peanuts and fruits to the rickshaw convoys carrying marines out to the track.

AT 1100 the ceremony began. MajGen Eiji Nagano, commanding officer of the Japanese 5th Independent Mixed Brigade, stood with members of his staff in an isolated group near the surrender stand. On the stand were General Shepherd, MajGen Keller E. Rockey, commanding general, Third Marine Amphibious Corps; Admiral Barbey, area naval commander; and members of the Sixth Marine Division staff. Directly across from the Japanese officers and the Americans on the stand were the troops, drawn up in formation. Those troops included the 29th and 22d Marine Regiments, the Sixth Tank Battalion, the Sixth Engineers, the Sixth Marine Division Headquarters Battalion, and other troops comprising the division. (Only the Reinforced Fourth Regiment, still at Yokosuka Naval Base, was not present.)

At a sign from the surrender stand, General Nagano approached and signed the surrender document. Then, he dropped his sword and withdrew. His staff officers followed suit. For the United States, General Shepherd signed. LtGen Yen Nien Li, deputy commander of the 11th War Area and Generalissimo Chiang Kai-Shek's personal representative, signed for the Chinese Central Government.

The surrender document stated that all Japanese forces in the Tsing Tao area were to surrender unconditionally to Generalissimo Chiang Kai-Shek and that all equipment and records were to be turned over to the Allies in good condition. All prisoners of war and civilian internees were to be immediately released. The commanding general of the 6th MarDiv was named as the duly authorized representative of Chiang.

Silent and swordless, the would-be-conquerors of the world left the surrender platform and entered automobiles awaiting them. The Americans in the grandstands watched them grimly. The Chinese throngs couldn't restrain themselves and broke into cheers. There were hoots of derision when one automobile wouldn't start. Finally, with the aid of a push, it rumbled down the track trailing a cloud of exhaust. And such was the exodus of the Japanese Imperial Army at Tsing Tao.

Who's Who in the Atomic Race?

By Stefan T. Possony

THE invention of the atomic bomb has modified the economic geography of military power. No country can hope to maintain itself in a conflict fought with atomic weapons unless it possesses the elements necessary to manufacture these new implements of war in sufficient quantity and superior quality. Three major elements are required for the production of atomic arms: radioactive raw materials, a large output of electric power, and a big, efficient and technologically progressive industry.

Atomic Raw Materials

Atomic bombs are produced today from uranium and thorium. Although uranium is present in most granitic rocks and appears in more than 120 minerals, it can be mined only at very few places. Thorium is three times more plentiful, but it is mined at even fewer points than uranium. Important deposits of both elements may still be discovered. Yet during the search for radium, most large uranium deposits seem to have been located—at least outside Asia. Both elements are extremely rare. (They are, in fact, so rare that they can hardly ever become a major source of industrial power.)

The energy available in one pound of uranium is equivalent to that gained by the combustion of 1,000 tons of coal. Yet roughly 750,000 tons of uranium would have to be mined every year if coal were to be replaced as the prime source of power in the world. The total amount of recoverable uranium is probably far less than 750,000 tons. To be sure, there is enough uranium available to destroy the world's large cities. Yet if uranium and thorium are extensively used for civilian and defensive purposes, the use of uranium bombs on a mass scale might be precluded by the exhaustion of the raw material.

Uranium Deposits

Before 1922, the carnotite mines in Colorado and Utah were the main producers of uranium (and radium). In that year rich deposits of uranium were discovered in the Belgian Congo near Elisabethville, department of Katanga. In 1930, the world's largest layers of uranium were located near the Great Bear Lake, Canada. A fourth major deposit is on the French island of Madagascar.

Canada has secondary deposits of uranium near the lakes Athabasca and Common and near Port Hope, Ontario. In the United States, uranium is found in smaller quantities in California, Wyoming, Arizona, Nevada, New Mexico, Texas and North Carolina. In the African region, uranium is also

Atomic Bomb Test Planned

The 35,000-ton battleship, Nagato, described by the Japanese as the "indestructible ship," will stand her greatest test from a bomb which scientists have learned will change matter in 20 different ways, thus creating an explosive effect without fragmentation. The ship will be towed 500 miles out to sea, where an atomic bomb will be dropped upon her, in experiments which may determine the form of navies in the future. The purpose of the experiment is to determine whether the atomic bomb will destroy a single ship, what it will do to a task force, and what effect it will have upon water. The Navy believes that the most dangerous effect of an atomic bomb could be under water, where the pressure of water greatly magnifies the effect of a torpedo or a mine. Chicago Tribune.

available in the Transvaal and in the Uruguru Mountains. Although it is at present not possible to calculate exactly the magnitude of these various deposits, it is probable that between two-thirds and three-fourths of the globe's uranium are concentrated in North America and Africa.

Within the British Empire, uranium is also found in Cornwall as well as in southern and western Australia. The largest European deposit is at Joachimsthal or Jachimov, on the Czech-German border. Norway, Bulgaria, Sweden (Karelia), Finland, Germany (Saxony) and Italy (Piedmont) have small amounts of the valuable element, which is also found at three points in Japan and in the state of Minas Geraes, Brazil.

The uranium resources of the Soviet Union are uncertain. It is assumed that there are no important deposits in European Russia. Some uranium has been discovered in the Urals. Mendelyevite, an uranium-bearing mineral, is found near Lake Baikal, Siberia. The richest known Soviet deposit is in Turkestan, in the Tyuya Muyun Mountains near Ferghana. None of the Russian deposits seem to be really rich, yet since large parts of the granitic formations in Russia are as yet poorly explored, Russia may actually possess greater reserves of uranium than would appear today. Some

European deposits are situated close to the Russian frontier.

Thorium Deposits

Thorium is extracted from monazite sands. The state of Travancore on the Malabar coast in British India, together with Ceylon, supplies almost 80 per cent of the world's needs. The rest comes from Bahia, Brazil, and from the Dutch East Indies. Monazite sands are in Florida and in both Carolinas. Additional British Empire resources are at Villeneuve, Quebec, in New South Wales and in England proper. Thorium is also produced in small quantities in Colombia, Southern Norway and Finland. Russia has by no means inconsiderable resources of monazite, particularly in the gold-bearing regions in the Urals and in the Ilmen range; monazite has also been reported from Siberia.

Electric Power

Extensive use of atomic weapons is impossible without the large-scale production of plutonium. It has not been revealed how much plutonium is used per bomb, although it is known that the amount is by no means small. The production of this element requires a great amount of electrical energy. In the first experiment in atomic fission in 1939, 15 times more electric energy was required than was released. Power is still needed in extremely great quantities. According to the report by Dr. H. D. Smyth of Princeton University the production of one kilogram of plutonium a day would require a plant capable of delivering between 500,000 and 1,500,000 kilowatts. In fact, plutonium output was already in 1945 "very large," according to the Smyth report.

Besides plutonium, atomic bombs can be made of U-235 which must be separated from the more common U-238. This separation requires large amounts of electric power by whatever method is chosen. Although a large part of the separation work went on at a site where power produced by TVA could be used, one "of the largest . . . steam power plants . . . ever built" was there constructed.

It may be then assumed that, to make an appreciable number of atomic bombs, one million kilowatts of installed power plant producing 8,000 million kilowatt hours of energy per year must be set aside. As a comparison, the total installed power plant of the entire world in 1924 was estimated at 53 million kw. At present, only three countries—the United States, Germany and Russia—produce more than 30,000 million kwh per year, an output which would seem to be the minimum requirement for a substantial fabrication of atomic bombs. Since Russian power stations utilize more than 60 per cent of their capacity, while Britain exploits only 22 per cent, England should be included into the group of the chief producers of electricity.

While Germany can no longer be counted as a unit, France, Belgium and Holland, including the

parts of Germany occupied by France, could together attain a production of 30,000 million kwh per year. Yet only the United States turns out enough power—almost 200,000 million kwh in 1944—to embark upon a true mass production of atomic weapons.

A nation's total power output indicates its capacity to manufacture atomic bombs. Yet without very large individual power stations production would become even more complicated than it actually is and power requirements would increase on account of losses by long-range transmission. The startling fact is, however, that in the whole world there are not more than 29 power stations with a capacity of more than 500,000 kw. Of these, 25 are in the United States and Canada; two are in Germany and two in Russia. There are only eight power plants with a capacity larger than one million kw; all of them are in the United States and Canada.

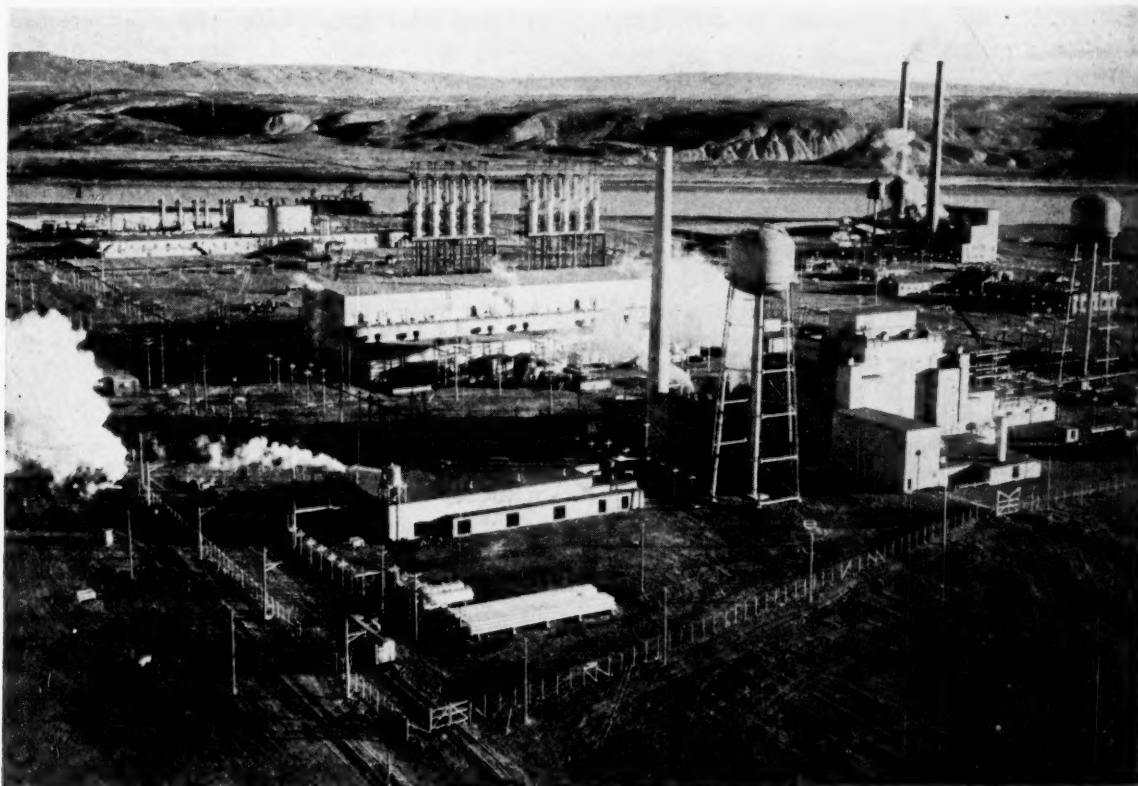
Potential Water Power in HP

<i>Africa</i> —274,000,000
Belgian Congo & Ruanda-Urundi—130,000,000
French Equatorial Africa—50,000,000
<i>Asia (without Russia)</i> —84,000,000
India—39,000,000
China including Manchuria—23,000,000
<i>Soviet Union</i> —78,000,000
Siberia—64,000,000
European Russia—14,000,000
<i>North America</i> —77,000,000
U. S. A.—33,500,000
Canada—25,500,000
<i>South America</i> —74,000,000
Brazil—36,000,000
<i>Europe (without Russia)</i> —60,000,000
Norway—16,000,000
France—6,000,000
Spain—5,700,000
Italy—5,400,000
Sweden—4,000,000

Russia's third Five Year Plan envisaged the construction of a dozen power stations on the rivers Volga, Kama and Oka. One of these—to be situated on the big bend of the Volga near Kuibyshev—shall become the largest in the world and develop 3.4 million kw. Another large station is planned in the neighborhood of Kaluga. An ultimate output of 75,000 million kwh is envisaged by Russia.

Electrification

To what degree can the power plant of the various countries be enlarged? For the production of 8,000 million kwh of energy, about ten million tons of coal per year must be consumed. This seems little in terms of American output. England, too, could set aside such a quantity. Also Germany could mine more coal than she did before her collapse. Coal production in Russia is comparatively small and continuously lags behind plans. The



Under a veil of secrecy, this west-coast plant helped in developing the atomic bomb.

Soviet Union has very large deposits of excellent coal. Although most of it is located in out-of-the-way Siberia, difficulties will be overcome as soon as the transport system has been substantially improved. At present, Russia moreover has access to the coal in Silesia. France is so deficient in coal that even if she retains the Saar region and federates herself economically with Belgium, she would be unable to base the production of atomic weapons on coal.

Large-scale increases in the world's electric plant will probably be based on water power. Although the initial cost of hydro-electric plants are higher than those of steam plants, they offer considerable advantages from the military point of view: once in operation they require neither manpower, nor raw materials or transportation.

What are the hydro-electric reserves of the various countries?

Industrial Potential

"Just as the automobile replaced the horse and made work for millions of Americans, the atomic explosive will require the services of millions of men if we are compelled to employ them in fighting our battles." (General Marshall).

The manufacture of atomic bombs requires huge and numerous industrial installations. Moreover, these weapons can be used with impunity only by the side which has secured command in the air, is

able to fill the skies with numerous heavy bombers, fighters, long-range rockets and rocket interceptors, and which also protects its own industry and population against atomic reprisal. It seems, therefore, obvious that only the countries with the biggest industrial output will be able to make and employ atomic weapons. Since the industrially strongest nation can produce more atomic bombs and more means of protection than any other country, it should henceforth enjoy a premium of strength greater than that enjoyed by it in previous industrial wars.

Industrial Efficiency

Efficiency and productivity cannot be expressed in quantitative terms. Many people think that, once the secret of the atomic bomb has been pierced, other nations will be able to produce that weapon. The loss of the American *scientific* monopoly of the atomic bomb is ultimately unavoidable, yet not every country will be able to *manufacture* atomic bombs.

Efficiency and productivity of industry become fairly obvious if a nation's production record is examined. An industry which never pioneered, made few contributions to technological progress, boasts of no or very few major inventions and which does not enjoy the services of first-class scientific and creative personnel, is very unlikely to pioneer on an important scale within the foreseeable future,

or even to imitate the fabrication of complicated products.

There are no secrets in automobiles, but the overwhelming majority of cars are built in North America. Mass production plants in England, Germany, France and Italy are partly American-owned and equipped with American machinery. While England and Germany specialized in high-quality automobiles, the United States made trucks for almost the entire world.

Russian cars were built with American patents and with American tools. Russia contributed no important improvement to automobile engineering, and had to import great numbers of cars, trucks, and even tractors, the very basis of her mechanized agriculture. (For that matter, Dnieprestroï was built by an American firm and much of the machinery was imported from the United States.) Russia's industry as a whole still depends upon the importation of machinery and tools from leading industrial countries.

The industrial preponderance of Western Europe and North America is gradually broken with respect to commodities of more or less easy and standardized manufacture. Yet it is *more* pronounced than ever with respect to products of complicated design requiring precision work on a large scale.

Only the United States and Great Britain were able to turn out satisfactory heavy bombers. They had an unchallenged monopoly in bombsight and radar equipment. No other country was ever able to build efficient aircraft carriers and to equip them with aircraft as effective as land-based planes. High octane gasoline, although invented by a Russian, was produced largely in the United States, Great Britain and Germany and had to be imported during the war into Russia. Other examples could be quoted *ad libitum*. Germany alone was able throughout history to compete technologically and industrially with England and America.

Even if technological secrets are revealed, the know-how of production will not be transferred to other countries. Numerous Anglo-Saxon "secret weapons" were known to all belligerents, but few were successfully imitated. The production of atomic bombs is unquestionably the most difficult industrial task ever performed. For example, uranium must be purified to a degree far exceeding the purity of materials needed in laboratories. An impurity in granite of one part in 50,000 is considered undesirable. The cooling system requires a sheath "that would protect uranium from water corrosion, would keep fission products out of the water, would transmit heat from the uranium to the water, and would not absorb too many neutrons."

Can similar—almost superhuman—problems be solved by industries which heretofore only occasionally manufactured complicated and revolutionary equipment and which receive the bulk of their precision tools from abroad? The history of indus-

trial production indicates that such an achievement is most unlikely.

Inventiveness

Yet suppose that rapid industrial progress will enable other countries to catch up with the production of the atomic bomb. Will the United States and Great Britain be able to retain their lead in the development of atomic weapons and to produce them in a superior quality? The future is, of course, unknown. One genius, an Edison or Marconi of the Atomic Age, might upset the balance. Nobody can predict what his nationality will be. The United States might fall back in the race for atomic weapons if its research is incompetently organized or insufficiently endowed. Yet if no grave mistake will be made, the United States and Britain should continue to remain the leaders in atomic research and production. For their combined leadership in research and inventiveness is challenged by no one.

What, for example, is the geographic location of basic research? An analysis of the nationalities of Nobel prize winners provides an answer to that question. Of 89 winners in the fields of physics and chemistry, 29 were Germans, 16 British, 11 Americans and 11 French. (Since 1930, incidentally, the United States and Germany received the same number of prizes.) In the fields of medicine and physiology, there were 11 British, 8 Germans, 4 Americans, 4 French and 4 Austrian winners. There are also two Russians, Pavlov and Metchnikoff, who won the prize prior to the first World War.

Nobel Prize Winners

Germany	37
Britain	27
United States	15
France	15
Holland	7
Austria	7
Sweden	6
Switzerland	5
Denmark	4
Italy	3
Belgium	2
Russia	2
Hungary	2
Spain	1
India	1

134

Altogether, 15 countries won prizes; four of them won two-thirds of all prizes. More than half of the winners—67—came from the three great democracies and from Holland, Belgium and India. The former Axis countries provided 49 winners (of whom, however, a certain number emigrated to Britain and America.) Three small European democracies contributed 15 winners. No less than 96 per cent of all prizes fell to the United States and

European countries west of the line Stockholm-Vienna. Eight winners participated indirectly and ten others directly in the development of the atomic bomb.

Where is basic research most successfully applied? The hundred most important non-American inventions listed by the World Almanac have been made in the following areas:

Important Inventions

Britain	37
Germany	27
France	20
Small European countries	11
Italy	4
Russia	1

In addition, there are at least 70 major American inventions on record, some of them made by foreign-born Americans (Erricsson, Tesla). Thus, while Germany may be leading in basic research, the Anglo-Saxon countries are relatively stronger in practical application.

The continuous efficiency of industry depends upon a steady flow of minor inventions—upon the number of patents granted every year. In this field again, the United States, Britain and Germany have the undisputed lead. The number of patents granted in the United States oscillates between 31,000 and 41,000, in Britain between 17,000 and 19,000, and in Germany between 15,000 and 16,000. Switzerland is relatively, i.e. in number of inventions per capita of population, the most inventive country, while among the Great Powers, Britain is at present leading in comparative inventiveness.

Information about Russia patents is very scanty. According to a table of comparative inventiveness published by Ellsworth Huntington, Russia was twentieth among the nations in 1925. In absolute numbers, as many patents were then granted in Russia as in Switzerland. During the last years, Russia has failed to publish statistics on patents. While Russia habitually buys great numbers of American patents, she was granted only one American patent in 1938 and eight in 1940. "Even Japan, with 57 U. S. patents in 1939 and 44 in 1940, topped the Soviet Union." (Robert Strausz-Hupé, *The Balance of Tomorrow*, New York 1945).

The second World War hardly demonstrated that the international distribution of inventiveness has undergone significant changes. No country outside

North America and Western and Central Europe has as yet attained technological maturity.

Conclusions

How, then, are the three main elements of atomic power distributed over the globe? Insofar as raw materials are concerned, the United States and the British Empire, together with Belgium and France, control the largest portion of known deposits. Russia's resources of uranium and thorium are uncertain. If electric requirements are considered, the United States is the only country which can at present organize mass production of atomic weapons. Russia might possibly acquire a large electric power plant within the next decade.

Will the Great Powers embark upon competition for the control of Africa's uranium deposits and hydro-electric potential? Will they compete for the uranium deposits and the power plant of Central Europe and Scandinavia? These are the major problems of tomorrow's international politics.

In terms of industrial efficiency, only the United States and Great Britain can be considered as capable of making atomic weapons within the near future, even if the secret cannot be maintained. The industries situated between the Ruhr and the Loire are efficient enough to take up atomic production, although they would have to import their raw materials from overseas. Yet in the absence of economic and political federation, atomic production in Western Europe may be ruled out as unlikely. On the basis of the historical record, it would be very surprising if Russian industry could successfully engage in atomic competition.

The only region which possesses all the elements needed for atomic production is the United States and Canada. The continent of North America is thus the geographic center of atomic power. Little is in view to indicate that within the next decades that center will be removed to other areas. The invention of the atomic bomb has, so it seems, enhanced the strength of the already potentially and actually strongest military power — the United States. If moreover the United States and Great Britain pool their intellectual resources, as they did so successfully during the war, an almost permanent and crushing superiority in atomic production will be assured for democracy. This is, perhaps, the most solid reason for the hope that, this time, peace may be of a more durable quality.

Cover Reprint Supply Exhausted

We regret to inform our readers that our present supply of cover reprints, which depict some of the highlights of Marine Corps history, has been exhausted. When these covers are available again, advance notice will be given in the GAZETTE.

Taking of Westkappelle

The British Marines

fought their bloodiest battle of the war in the Netherlands when they secured the sea approaches while our armies enveloped Antwerp. By LtComdr Ian C. Higgs, British Navy

IN days to come, British marines will remember the first of November. Their assault on Westkappelle in the island of Walcheren (Holland) on 1 November 1944 was their biggest day in World War II—their bloodiest battle since the heroic assault on Zeebrugge in April 1918.

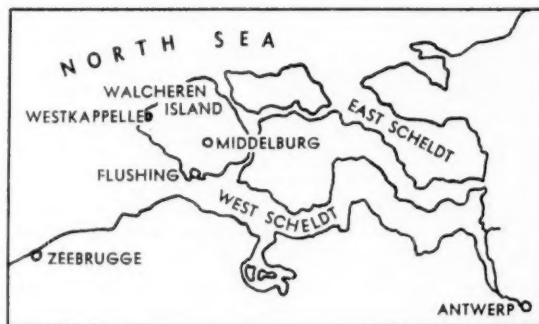
General Eisenhower later signalled his congratulations to the Royal Marine Commandos for the gallant part they played in capturing Walcheren, thus permitting the flow of vital supplies for his armies into the great port of Antwerp.

The landing force consisted of three Royal Marine Commandos (a Commando has a strength of 425 men), supported by two troops of an Allied Commando (a troop has 64 men), a squadron of tanks, detachments of Royal Engineers, Pioneers and Royal Canadian Army Medical Corps and Service Corps. The softening-up was in the hands of a bombardment force that comprised H.M.S. *Warspite*, the monitors *Erebus* and *Roberts* (with their large marine detachments) and a landing craft (support) squadron of which more than half the personnel were marines. Thus three of the most important activities of the corps were represented in the battle.

The object was, of course, the clearance of the entrance to the Scheldt and the final freeing of the great port of Antwerp. Thus, in a combined operation with a naval object of first class importance, we see a classic example of the traditional role of the Royal Marines as the "Soldiers of the Fleet."

The loss of Antwerp, which fell so easily to the dash of the Second Army's armored division, was the biggest blunder the enemy had made in the cunning and stubborn defensive battle he had fought since Normandy. He sought to cover this disaster by the tenacity with which he hung on to the batteries covering the seaway to the port and bolting the door against our ships. The last of these bolts—the great batteries established in the Westkappelle dyke—was broken by the British marines.

The way was paved for them by the RAF, whose earthquake bombs tore two great breaches in the dyke which for centuries has defended Walcheren from the encroachment of the sea. One of these gaps was at Westkappelle, the other a mile or so north of Flushing, and the sea pouring in had flooded the center of the island to a variable depth. Only the huge dyke stood up clear of the waters.



The fortress at Westkappelle on Walcheren Island guarded Antwerp's sea approaches.

In the sand dunes piled high on top of its massive masonry were the batteries. And in these dunes—a narrow strip between sea and flood—the final battle was fought.

On the day itself the weather prevented the intervention of heavy bombers. RAF Typhoons flew over 400 sorties, but this was only a fraction of the bombardment envisaged in the plan. The burden of softening-up fell upon the Royal Navy and the marine gunners of the landing craft (support) squadron. In the teeth of a destructive fire from the heavily concreted batteries, the support squadron closed right in and shot it out with guns of twice the range and caliber of their own. In this unequal duel they suffered severely, but they drew the fire away from the landing craft (tank) carrying in the Commandos and their amphibian fighting vehicles.

One landing craft (gun) beached 50 yards from a very powerful German pillbox and engaged it at point-blank range. Many of their shells bounced off the solid casemates, but this fire didn't do the German shooting any good. The LCG kept firing for ten vital minutes while the Commandos were getting ashore and then unbeached, only to sink by the stern in deep water.

Out of 25 craft in the squadron, nine were sunk and eight damaged, but the courage and determination of the bluejacks and marines manning them saved the day.

General Eisenhower said afterwards: "The manner in which the unarmored vessels (carrying marines) with light guns went in and slammed it out

with heavier guns in reinforced concrete is one of the incidents that will be remembered in British naval history."

The Commandos landed right in the gap the RAF had torn in the dyke immediately south of Westkappelle, one Commando and the tanks on the north side, two on the south. To the north the marines immediately tackled the big Westkappelle battery and cleared the shattered, flooded village. The front was too narrow to permit of much maneuver, but they drove ahead. Before nightfall they had taken the village of Domberg and another battery of four 220mm guns.

To the south the first task was to clear a wrecked German radar station. This did not delay them long and they pushed on rapidly to another big battery. In order to maintain the dash and impetus of their attack, the marines did not wait for support but went straight into an assault on this position, though the Germans were established in deep concrete bunkers ringed by minefields. This bold attack failed, with severe casualties, and a fire plan was organized in which field artillery from the mainland and RAF Typhoons played a leading part.

After a thorough strafe, the Commando assaulted under cover of smoke and fought its way into the middle of the battery, taking the control post. The remaining gun sites were cleared by fighting patrols under cover of darkness. By dawn the village of Zouteland and the German HQ there were in the hands of the marines.

Here another Royal Marine Commando took over the attack and pushed on to another big battery

covered by a strong defense line that consisted of a deep anti-tank ditch, dragon's teeth and a mine-field. Two troops assaulted this with artillery support and got across the ditch, only to be held up by destructive mortar fire.

Meanwhile three other troops bypassed this position by advancing along the dunes to the main battery. They reached it but also came under heavy mortar fire and lost many men killed and wounded, including the three troop commanders. The pockets of resistance to their rear cut them off from the main body of the Commando. A fresh troop went in to clear these up and under cover of darkness supplies were manhandled forward across the steep dunes to the advanced troops. The adjutant went forward himself to reorganize the position and a sharp German night attack was beaten off.

At first light the attack was renewed with the assistance of a troop from the other Commando to cover the left flank. After a tough battle lasting till noon the Germans decided that they had had enough. They began to surrender. The German commandant gave himself up, handing over his pistol with the words: "If you think I am a coward, shoot me."

Against slackening resistance the marines thrust forward until they reached the second gap in the dyke. Here they met the army Commando that had landed at Flushing and pushed north towards them.

This link-up marked the end of the German grip on the Scheldt, and soon afterward the minesweepers of the Royal Navy were moving up the channel. The battle for Antwerp was won.



Where the RAF breached the dyke, the members of a Royal Marine Commando hurl their assault vehicles from an LCC to a beach-head still under fire of German guns.

Surrender Propaganda

A study of our past experience with Jap civilians on islands seized from the enemy may help determine the proper attitude towards a conquered people.

By Maj Eugene P. Boardman

SINCE the capitulation of Japan, occupation forces have been faced with the problem of determining the attitude to adopt toward the conquered people that will best carry out the aims for which this war was fought. It is the writer's belief that our past experiences in inducing Japanese to surrender can be used to guide us in our present relations with Japanese civilians.

Guadalcanal

During the Guadalcanal campaign the opportunity for psychological warfare did not come until January 1943. In that instance, the 24th Army Corps, had two Army divisions and one Marine division with which to engage the enemy forces remaining on the island. A series of drives and encirclements, begun shortly after Christmas 1942 with the assault on Mt. Austen, proved by the second week of January that a successful defense on the part of the sick, hunger-ridden Nipponese was impossible. At this point, we of the Corps' language section received the word to drop surrender leaflets and to arrange voice broadcasts.

Although thousands of prepared, printed forms had been supplied by the War Department, none of the appeals fitted the situation. One was a surrender pass, attractively made up but unsuitable because it directed the recipients to come into the American lines "any time of night or day." Another quoted several poems by the Emperor extolling peace and accused Japanese leaders of perverting the Emperor's real desires. A third bore illustrations of sinking Japanese ships under the taunting caption, "Japanese, where is your navy now?" A fourth humorously contrasted the adventures of an unlucky Japanese infantryman with the easy life of the civilian exploiters of occupied territories.

Instead, the attempt was made to compose a leaflet which would refer to conditions behind the enemy lines as we and every Japanese soldier knew them to be. Japanese in the front lines were worn out, starving, sick with malaria and beri-beri. Their own troops in the rear areas were of no assistance in carrying supplies to the front; in fact, they would intercept ration-bearing parties and seize their rations.

It is no wonder that some of the starving soldiers in desperation resorted to cannibalism. In several instances senior officers deserted their troops. The American artillery pounded away day and night. Their's had long been silenced or was afraid to fire

The examples below are drawn from the writer's experiences as a Japanese Language Officer on the staff of the XIV Army Corps on Guadalcanal and of the Second Marine Division during the Tarawa, Saipan, and Tinian operations.

more than a few rounds during twilight for fear of being spotted. American planes were overhead throughout the day unchallenged. The promised descent in force of the Japanese air force never materialized. Under these circumstances Japanese soldiers had no reason to doubt our statement that the Americans would presently overwhelm them.

The commanding general himself took pains to ensure that we were prepared to fulfill each of our conditions of surrender. A surrendering Japanese would not be fired upon if he approached the American lines during the daytime unarmed, singly, his hands in the air, walking across ground where he could be seen clearly. He would be fed his own food, taken from captured stores. Treatment would be humane and medical care would be provided for all who needed it. For three days leaflets embodying these points were dropped over the Japanese lines. Each bundle of ten contained a package of *tofu*, a Japanese confection, as a stimulus to its recovery.

At the same time, voice amplifiers were put up around the periphery of encircled areas to carry the spoken appeal. Before each broadcast in Japanese. American troops were informed over the same loud-speakers of what was to happen and ordered to hold their fire. The first prisoners to come in were put before the microphone and directed to continue the appeal. On the whole these men performed very well, addressing their comrades by name and calling upon their officers to allow men to surrender while there was still time. The speakers in each case described in reassuring terms their treatment at the hands of the Americans.

As a result several hundred Japanese soldiers and several officers became prisoners, the first successful response to the use of such methods. (After the capture of Tulagi the preceding August, Japanese survivors on Florida Island were invited to surrender through proclamations posted on trees near their bivouac areas. The Japanese read these, but were forbidden by their officers to surrender.)

Tarawa

No leaflets were dropped by the Second Marine Division at Tarawa prior to the attack nor was the use of loud-speaker equipment practicable even if it had been available. Several ineffectual attempts to talk into pillboxes were made by interpreters. The main action at Tarawa lasted only five days; half of that time the American position was so precarious as to make asking the enemy to surrender look ridiculous. By the time the tide of battle had turned in our favor, almost all the defenders were dead.

Saipan

Saipan was the first of American objectives in the Pacific to possess a sizable civilian population. This included Koreans and Chamorros as well as Japanese. It was plain to see that the presence of refugees along roads and in the areas under fire might handicap the military effort. Consequently considerable thought was devoted to preparation of printed appeals to civilians. Civilians were to stay off the highways and away from towns or camps. They were asked to approach our lines during the day waving white cloths. The Americans would hold their fire and treat them kindly. Food, water, and medical care would be provided.

Leaflets intended for soldiers made much of the overwhelming might of land, sea, and air forces shortly to be directed against Saipan. They emphasized the hopeless nature of the final outcome for the prevalent and officially-inspired story that Americans ran bull-dozers over prisoners. Each of these appeals was well-intended but they all reflected our ignorance of actual conditions on Saipan.

Leaflets addressed to the various groups were dropped on the island in considerable quantity prior to D day. Afterward it was generally agreed that except for the Koreans and Chamorros the effort was wasted. Japanese civilians retreated with the troops. The soldiers evidently awaited demonstration of the hopelessness of their cause.

In the last phase of the action, however, the loud-speaker really proved its worth. Prior to the landing, the Division language section had procured three or four portables, two medium sets, and one large loud-speaker unit. The last two types were mounted on jeeps or captured vehicles. Battalion commanders appeared willing to allot to psychological warfare a liberal part of the time in which an objective had to be taken because such efforts sometimes obviated the nasty work of clearing caves.

At first the process was slow and exhausting. With civilians it was a matter of persuading the less timid to come out and then to go back for their friends and families. As soon as these people saw with their own eyes what the Americans were really like, the trickle of surrendering civilians

swelled to a torrent, movement of which occupied a large percentage of the transport available.

Many Jap soldiers mixed with these civilians. Our troops had trouble distinguishing them, since the khaki work clothes and caps issued by the South Seas Development Company were similar in appearance to the ordinary army uniforms. Unlike Guadalcanal no opportunities for large-scale encirclement appeared. Japanese soldiers surrendered in two's and three's, beginning with those who had been lost or separated from their units. Our arguments failed to persuade a number of the civilians. These destroyed themselves and their families on the rocks of Marpi Point at the northern end of the island or sought death by drowning.

Tinian

Our attack on Tinian was begun several weeks after the cessation of organized resistance on Saipan. Although the operation was over in ten days, a much shorter time than on the island to the north, the behavior of Japanese civilians there turned out to be the same.

Mindful of the needless slaughter of several weeks before, the leaflet prepared for distribution on Tinian told the Japanese what had happened at the northern extremity of Saipan. The Americans were not killing unarmed civilians. All who had come in had been well treated and were happy. What chance did the old style *seishin*, i.e. sacred spirit, of a soldier have against the weight of American war materiel?

Aside from the usual directions for surrender and promises of good treatment, the leaflet included several injunctions designed to avoid situations that had arisen on Saipan. Civilians were to keep away from Japanese military personnel, avoid cast-off uniforms, and appear in clothing as different in color as possible from what the soldiers wore. No one was to try to approach the American lines at night. Surrendering civilians were advised to come toward our lines waving handkerchiefs or a white flag. To ensure an authoritative style and calligraphy, a Japanese officer prisoner composed the text and inscribed the stencil. As on Saipan, thousands of copies were dropped in likely areas prior to D day.

The same voice-broadcasting equipment was employed, but several refinements were introduced to reach caves on the seaward side of rocky shelves at the southern end of the island. In one case a hook-up was arranged between a sending set established on our front lines and a receiving set on board a destroyer. The destroyer picked up what our language officer told the Japanese in caves and then broadcast it over the ship's loud-speaker system toward the shoreline areas which the apparatus set up on shore could not reach. Japanese were then given an allotted time to clear a certain area before the five-inch guns opened up.

Much of the broadcasting was done by Marine language officers using our large type of public address system from an LCI. The LCI was in communication with the shore-based language personnel. Through their direction it could be maneuvered so as to have the spoken word reach caves beyond earshot of the land-based broadcasts. (LCI's were assigned to similar work at Iwo Jima.)

EVERY infantry company in the Division had drill in simple Japanese phrases worded to help clear caves and control captives. As on Saipan the Division language staff, aided by language officers of the Fifth Amphibious Corps, prepared itself to be of the fullest possible use to unit commanders.

When our first raid on the Marianas took place in February 1944, there were in excess of 15,000 civilians on Tinian, a thousand of whom were Koreans. Between that time and June 15 about 1,500 were evacuated to Japan. There was apparently no attempt here as there was on Saipan to form the *Zaigo Gunjin* or Home Guard. When the bombardments preliminary to the assault on Saipan took place, the people fled to the Marpi well area in the southern half of the island or went to shelters on their own farms. We found these family shelters filled with supplies, their best clothes, and family papers. Those who left their homes tried to carry along as much as possible of their personal belongings.

The first landing on Tinian took place July 24 on two narrow beaches along the northwest coast. Our forces captured the main airfield and then moved southward. Most of the Japanese civilians fled before us to the southern part of the island where they crowded onto the southernmost plateau, going just as far as they could. Many of these people had read our leaflets, some had prepared white flags, but except for the Koreans few actually followed our directions. Apparently it took too much courage to believe the words of an unknown, supposedly barbarous enemy. They afterwards told us that the soldiers had spread a rumor to the effect that Americans tortured prisoners. Japanese soldiers in the same area did not hesitate to fire on their own people if they saw them trying to surrender. Also, the ferocity of American artillery fire caused genuine and unreasoning terror.

Soon the areas in which civilians were hiding were surrounded, but it was only after they had become used to the presence of American troops and could see how they behaved that we began to woo them out of their holes with loud-speakers. This was hard to do and took a long time.

The directions which the leaflets contained were repeated again and again supplemented with advice to cover the local situation. At first only the venturesome believed what we said. Some of these volunteered for the dangerous work of returning to persuade others. Heads of families asked to go

back and rescue their women and children. Prominent local citizens like the dentist of Tinian Town spoke into the microphone, mentioning names and trying to build up confidence. One man who saw the trouble our marines went to in getting out civilians was instrumental in bringing in personally more than 300 of his countrymen. The largest numbers seemed to come in between 1700 and night-fall. The availability of drinking water was generally a determining factor, for the number received varied in inverse proportion to the rainfall.

As on Saipan, Japanese military commanders made no plans and issued no directions for the control of the civilian population. The presence of uninstructed soldiery in the same area as civilians complicated our problem tremendously. The troops seemed angered by the pacific behavior of their people. There may have been some reason for this. Later we discovered hundreds of military personnel who had changed clothing and mingled with surrendering civilians so as to get in more safely. The feeling broke out on several occasions into instances of mass destruction of civilians by the military. Some of the people committed suicide rather than face what they must have considered an impossible future with the Americans.

Once in our camps, civilians were grateful and cooperative. The internees did not appear resentful of the civilian deaths that our fire had caused, despite the fact that an estimated 2,500 perished in the course of the action. It could not have been helped, they said.

ALL the facilities the Division could spare, in the way of motor transport, military police, food, medical care, and language personnel, were employed in taking care of the internees. The number of these in the Division stockade at one time passed the six thousand mark. Yet we could be proud that every promise made in our leaflets or over the loud-speakers was kept. When the combat troops turned over the internees to the Tinian Island Command, it is the writer's belief that we had laid the foundation for successful relations between these Japanese and our military government.

From what has been said, successful relations with the Japanese people will depend on the presence of the following factors:

1. *Accurate knowledge of the local situation.*
2. *Simple, clear directions, repeated until understood.*
3. *Demonstration in person.* The average Japanese trusts what he himself can see and hear more than what he reads. This may be a byproduct of their late government's methods of falsifying the news. Personal demonstration will sometimes get results with surprising rapidity.
4. *Promises made carefully and kept to the letter.*

The Southern Cross

When this anonymous Japanese

sailor wrote so blithely of Nippon's heyday in the Southern Pacific waters in the early days of the war, he could have had little thought of the bitter defeat which was to come.

The Southern Cross! Whether or not that name is a fitting title for this work, I do not know; but during my voyage to the South Seas that constellation impressed itself, I know not why, unforgettably upon my mind, and its name is indelibly written in my heart. Battles have followed battles, and I believe their dazzling number will remain recorded for posterity in this book, The Southern Cross.

I HAD but a short while, but nevertheless I celebrated a victorious New Year's Day in the homeland and enjoyed to the fullest the taste of my native land. Leaving Kure behind, I set out on the long sea voyage to my second field of operations in the South Seas—to that southern land which I had longed for and dreamed of since my childhood. I stood at my lookout station watching while seas of dancing silver and gold waves and naked natives dancing in the shadow of coconut trees floated before my eyes. At length the fleet passed Taiwan and entered the Tropical Zone. At Truk, the land of eternal summer, we changed to our tropical uniforms.

The bright sun sent out blazing rays and it was steaming hot inside the ship. This completely dissipated my cherished illusions about the tropics. Even so, the squalls which occasionally assailed us, accompanied as they were with cool winds and rain, ameliorated the heat. Then at night the gentle evening breeze, blowing drowsily, gave delicious coolness to my hot body. Looking heavenwards, stars like scattered gold and silver twinkled here and there in the evening sky. The Southern Cross, which I was seeing for the first time, glittered there among them.

The nights in the South Seas roused vague feelings of longing for home. Giving consolation for our inadequacies, the rippling waves broke against the side of the boat like sparkling scatterings of beautiful pure silver. The South Sea vegetation grew luxuriantly directly down to the beating waves

and its beautiful contours were reflected on the surface of the sea. Adding the moon to this, the mid-day heat seemed a dream.

We stopped here for a certain number of days, then when the supplying was completed, finally turned toward the Rabaul theater of operations and went forth to the attack. The gun shields were put up, and lookouts posted as usual.

Since leaving Kure Harbor, how many times have I longed for a peaceful sleep in a hammock! Exhausted by work during the day, at night I lay among the machine guns on the upper deck, never closing my watchful eyes for an instant. Are the men on the homefront really aware of these hardships?

Finally, on 20 January, we launched our planes from a point 200 miles north of Rabaul and New Guinea. From that time until the 24th, when army units and landing forces carried out a bold landing in the face of the enemy, we sailed back and forth across the equator, moving northward during the day and southward at night. We bombed every day at dawn for about 10 times. Our beloved plane, the Abukuma, also took part in the bombing, receiving its baptism of fire. We did not see the enemy in this operation. Bitterly disappointed at this, we returned once again to Truk.

Port Darwin Operations

On 1 February we received word of the appearance of an enemy striking force on the east end of the Marshall Islands. Our striking force, under orders to take and exterminate this enemy immediately, headed straight for the Marshall Islands.

However, the hour arrived and the enemy was nowhere about, so there was nothing to do but to sail for the next field of operations, namely Palau, where we were to carry out joint operations with the Southern Force.

Palau Island boasts of being the most civilized among the various South Sea Islands. The South Sea Islands Government Office is located here, and both the buildings and the inhabitants are civilized in comparison with Truk and other islands.

With its stores, parks, shrines, Apai, elementary schools, and in the military line the Air Group,

The author of this flowery account has not been identified, but he was obviously an enlisted man serving aboard one of the Japanese battleships. The first chapter of his projected book, "The Southern Cross," was published in the October GAZETTE under the title "Memorable Day." It recounted the Japanese attack on Pearl Harbor. The activities of his fleet in the Southwest Pacific and the Indian Ocean are the subject of this month's installment.

Stores Department, etc., it reminded me of country towns at home.

Here I approached two native girls and in exchanging conversation with them on various subjects was amazed at their skill in Japanese, at their simplicity and naivety, and at the intelligence of their profiles.

On a certain day here we were sent out to destroy Port Darwin, an important port on the extreme northern tip of hostile Australia. The planes took off as in the previous battle from a point 200 miles away and inflicted tremendous damage on the port.

Our striking force next had to prepare for the Java Operations in the Indian Ocean. Giving chase to an enemy submarine, we sailed into Starling Bay in the Dutch-held Celebes, which were now under occupation by our paratroop forces and landing forces.

Indian Ocean Operations

England and America's ambitious 100-year-old dream of advancing into the South Seas and the Orient was finally shaken to its foundations as defeat followed defeat. In spite of the fact that they were taking their deathbed gasp; still stubborn, this dispatched the combined British, Dutch and American Fleet, which now had no capital ships, and continued their throes in the Java area, their last defense. Our striking force, which was to help this enemy across its last river, acting in close cooperation with other South Sea forces, weighed anchor in Staring Bay on 25 February and was on its way to the salty Indian Ocean.

The fleet, keeping a strict anti-submarine patrol in the sea areas where enemy submarines navigate, advanced between the islands which intersperse the Ombai Straits.

These waters, ripple-free as flowing oil, reminded me of the Inland Sea. . . (remainder of sentence illegible)

Words at such a time fail to express what I feel. Wild ducks flying together, clouds floating majestically, a great school of dolphins—the very picture of peace. Could it be that a bloody war was being fought on such a sea? It is not surprising that we felt a sense of wonder.

Finally the fleet made its splendid appearance in the Indian Ocean. A few hours later the 4th Cruiser Division separated from the force as a detached force and left for an undisclosed destination. The remainder, 4 aircraft carriers, 2 heavy cruisers, 1 light cruiser, and several destroyers arrived in the vicinity of Christmas Island to try to sink the enemy's fleet. We received reports from the Air Fleet 11 that one enemy carrier and one destroyer were trying to make port at Christmas Island. We approached this island and sent up a reconnaissance plane, but it was not able finally to locate any trace of them. No doubt the swiftly re-

treating enemy had learned of our approach, and had escaped under cover of night.

Grumbling over our ill luck in being again cheated out of an engagement, we changed our course and formation and headed for a supply base. Suddenly the alarm was given to man our battle stations. Wondering what had happened, we leaped to our battle stations and saw to our right a cloud of black smoke rising on the distant horizon. The big guns of the *Tone* opened fire, belching black smoke. The destroyers up ahead also began firing.

Soon the enemy merchant ship broke into flames, and in a few minutes sank to the depths of the Indian Ocean.

From this first bombardment by our striking force, I was able to realize something of the difficulties of artillery warfare; I was surprised to learn that we had fired several hundred shells at a single merchant vessel. Several hours later we were again ordered to man our battle stations. As we took up our posts, full of fighting spirit, the big guns of the *Tone* in the rear were already firing and shortly thereafter the *Hiei* also opened fire.

FINALLY we sighted the two enemy cruisers which were following astern. They at once made a quick 180° turn and fled into the clouds and mist.

Apparently it was considered too much trouble to finish them off with artillery fire; so our Sea Eagles rose with one flap of their wings from the decks of the carriers. In a few moments they sent the enemy to the bottom and came triumphantly back. In a short time the *Tone* rescued members of the enemy crew from the same ship and returned to its group. In the meantime the destroyer *Ariake* came back with 27 crewmen and other persons from the merchant ship which had previously been sunk. (These two cruisers probably were the *Repulse* and the *Prince of Wales*.)

We, who had not fired a single shot while we watched the artillery fight of the other ships, grieved with vexation beyond description, staring at the sky. In the meantime, off the coast of Soerabaja and Batavia, our destroyer squadrons opened a day and night battle, and brilliant battle results followed in quick succession.

The enemy must have escaped somehow to Australia; not one of them was caught in our net. Finally, as a last resort, we carried out a great bombing attack on a large group of transports that were entering the harbor of Tjilatjap.

About that time the weather began to get worse, belying the reputation of the Indian Ocean as the most peaceful of the seven seas. The wind velocity increased to 20 meters per second, and the ships rolled with a 20° list to port and starboard. Finally we gave up taking on oil from alongside and began to take it stern on because of the heavy seas.

Afterwards in the midst of the rough weather, our force resumed its ceaseless reconnaissance, moving east and west in irregular movements in search of the enemy. At that time the statements of the survivors picked up by the *Tone* were made public.

These men knew nothing of the movements of their own fleet; they did not even know that *Hawaii* had been attacked. They seemed to believe that our fleet was concentrated only in the Celebes. From this we could see how America was concealing her crushing defeats in a desperate attempt to prevent a decline in morale.

England and America, sacred countries of disguise, now your last time has come. Enemy of mankind, evil spirit of peace, the harsh blow of heaven has fallen against you.

Heaven will by no means forgive you, who for your own profit have planned an unscrupulous attack on Japan, the nation of righteousness, and on the Oriental people—you, who are trying to subjugate the world and to make the world a paradise for the white race!

Among the races who have been exploited up till now by the English and Americans are the Indians, the Malaysians, the Chinese, the Burmese, and countless other ignorant races whom civilization has bypassed. They have become the victims of the characteristic Anglo-American "squeeze and take" policy while the latter line their purses and nurture their overweening ambition.

They cause Gandhi to cry out for the independence of India and far away they carry on an opium war in the Republic of China.

All this is a cry from the heart of the splendid peoples of the Orient who are trying to escape the pressure which is being brought upon them by England and America.

However, now the blood of the Oriental peoples has returned to the original cherished desire of the Orientals and has been embraced by them. Their feelings are shown by the fact that they have pledged their mutual cooperation and assistance for the great undertaking of Japan, the leading power of the Orient.

Japan, who, as the leader of the Orient has opposed the powerful countries of England and America, really loves Asia and is laboring for the peace of mankind.

Our task group was now passing in the vicinity of Admiralty Bay and on the eleventh we were scheduled to enter the port of Kendari.

Although scarcely two months had passed since we left the homeland, it seemed like two years.

In the Indian Ocean, where one of the German ships *Emden* played a spectacular part in the destruction of trade, there is now not a shadow of the enemy, and an uncanny silence pervades the surface

of the sea where there is a faint reflection of the moon.

Ceylon Operations

With regard to the attack on Ceylon, which must grace the final pages of the history of our striking force, every possible preparation for battle had been completed during the 15 days when we lay at anchor in Staring Bay. Actually it was at the very crack of dawn on 26 March 1942 when once again it sallied forth into the fleecy-capped waves of the Indian Ocean. We saw, just as we did in the Java operation, the porpoises playing near the ocean's surface, as if the quiet, gently-lapping waves of Ombai Straits were lulling them to sleep.

There is a saying that the Indian Ocean has mountainous waves and that it is the ocean of the devil. But the Indian Ocean, shining before our eyes, was like an extremely quiet bay or a gently-rocking cradle.

Sailing around from place to place like this, a mundane feeling touched me. I was reminded of the days when I was a young bachelor with my pay envelope containing my monthly 50 yen converted into pure happiness, when I was swaggering through the street shops with an air of independence showing on my pimply face.

WHILE I was waiting, so tense with excitement was I that I might easily have sold my dearest possession at bargain prices. As the saying goes, my duties were like heavy weights on my shoulders.

We continued to sail swiftly and uneventfully, loading oil from time to time, standing watch, and keeping anti-submarine lookout. What strength there is in being with speedy airplanes!

At daybreak of the day before the attack, 4 April 1942, 400 miles from Ceylon, an enemy Consolidated Flying Boat met us. The bugle stirringly sounded "aerial attack" and the entire crew took up their posts.

Happy day! My blood ran fast and my flesh tingled as the enemy planes for which I had been waiting since the outbreak of the war appeared 30° off the port side. The shells were bursting in the air. It was more stirring than I had imagined it would be. The enemy tried to hide himself, using the clouds as a smoke screen, but to no avail; our ships' fire sought him out, and after a few minutes of aerial warfare he came crashing down, trailing a long trail of smoke against the sky. Ah! They have exhausted all their secret methods! What feelings the enemy must have experienced during those few minutes! What a lamentable way to spend one's last few moments on life!

Early on 5 April, for which we had been waiting, our force reached a point 200 miles south of Ceylon. The weather was excellent for good aerial bombardment.

Before daybreak, a huge formation of planes

set out for the enemy's last stronghold, Colombo in Ceylon. This attack was timed to take place just at the time of an Anglo-Indian conference. Piercing the morning haze like impetuous falcons, the planes soon disappeared from sight.

In less than an hour we received our first reports. According to these, we obtained brilliant results from aerial attacks on an enemy escorted convoy, on ground installations and airfields, and on an enemy plane on patrol duty. The planes returned to the ships safely.

Meanwhile, shipborne reconnaissance seaplanes went out to search for the enemy, looking to the west and to the south for ships and small craft. Presently, we received a wireless message from a plane of the 8th Cruiser Division to the effect that one carrier and one destroyer had been sighted. A carrier bomber unit was dispatched instantly and sank them immediately. (Two enemy cruisers were mistaken for a carrier and destroyer).

The force, going outside its patrol radius, sailed north and then south in irregular movements.

Finally, after our supplying was completed, we turned to our next field of attack, Trincomalee.

We launched the attack from a point 200 miles to the east at dawn on 9 April, in fine weather. Inasmuch as our large flying boats had been shooting down enemy craft for some time, we thought it likely that the enemy was expecting an attack on this occasion. However, our bold and intrepid fliers will turn the tables on the English by using their own strategy of crushing the enemy with a single blow. When we see the enemy, we will shoot him down without fail. The enemy faces the grim prospect of certain death.

The enemy's military installations at Trincomalee were bombed until there were none remaining. Furthermore, our fleet dispatched its reserve forces and in the work of a moment sank the aircraft carrier *Hermes* and a destroyer which were cruising in neighboring waters. We seemed to be inspired with superhuman powers.

At this point, an enemy heavy bomber unit consisting of nine planes audaciously attacked our force; but because the bombs fell from an altitude of 6,000 meters, they did no more harm than startling the fish in the sea. Our 25mm machine guns pursued the planes above the ships and spurring fire in unison, brought down seven of them. This one battle certainly proved how weak the fighting capacity of enemy planes is.

THE face of the braggart Churchill who before the war disdained and scorned Japan, and the face of the miserable Churchill who now stumbles straight to defeat, would bear resemblance to the face of an actor who plays a double role of sorrow and glee.

The striking force in the Bay of Bengal and our

force hailed each other; the Bay of Bengal force said it had been carrying on operations for five days and had obtained great results.

The English sun of military power in India, having finally lost its last vestige of defense, seemed on the point of setting.

The great British Empire has been shaken to its foundations, and its dream of world combination has been turned into a nightmare.

The passage of time has now fulfilled its purpose. Heaven has sent down its blessing upon the righteous, and crushed the wicked with an iron hand. Now this earth, which was made for the general benefit of all mankind, will be wholly transmuted into the paradise that has been the cherished hope of Eastern peoples. Japan, at the head, loudly sounds the knell of tyranny, and Japan, who leads the East to rebirth, is most fitted to bestow the blessing of the gods.

BACK to our longed-for mother country! At long last we return to our home port. In frankness I admit that I shed a tear as we bade farewell to the skies of the Southern Seas. The ship, seeming to quiver with joy, passed through the beautiful Malacca Straits on a northerly course.

We were on our way to our distant homeland, our hearts filled with emotion; loaded with honor, the best gift we could take to our native land was our glorious victory and our triumphal song.

Soon, as we were approaching the most northerly extremity of the Philippines, we received word by radio that an enemy task force had suddenly appeared at a point 750 miles south of Tokyo. Our force was ordered to destroy the enemy immediately. We sped to the attack at a high speed of 20 knots, intending to attack the enemy as long as our fuel held out. By an irony of fate, however, before we were able to reach this point on the 18th of December several cities in the Tomoku district of Japan suffered an air attack on a small scale.

We wept bitter tears and were filled with indignation; but although we continued the search for the enemy, we were unable to find him. However, it could not be helped and we followed the pre-arranged course that should have led us to the enemy, until, on the 28th, the whole fleet dispersed in home waters and we hastened to our longed-for home ports.

Friends and comrades of the striking force, for a long time we have suffered and been happy together; together we have rendered a great service to our country. Now the time has come for us to part; but, sooner or later, the day will come when we shall be together again. Until then, enjoy yourselves and be happy! While my heart is grieved at this sad parting, I shall try to write a few lines of feeble verse.

(The "few lines of feeble verse" (eight pages) have been omitted).

Military Aspects of Mental Disease

By LtComdr Philip Solomon, (MC)USNR

Last of three articles on the neuropsychiatric problem in the Marine Corps.

The previous two articles in this series have discussed the general problems of mental health and mental disease in military life. The present, and concluding article, is concerned with the problem of human behavior in connection with COMBAT HYSTERIA.

EVERYONE who has taken part in a military operation knows the uneasy feeling of anticipation that occurs before it. The intensity of this feeling varies, according to the temperament of the individual, from vague misgivings and forebodings to outright dread. This is normal, and the man who claims he doesn't feel it is kidding himself.

The day of embarkation causes a let-up of the feeling since the die is now cast and everyone is relieved and glad to be on the way. Then as D day approaches, apprehension again increases. The peak is reached as one goes over the side and sets out for the beach. After that, one is so busy that there is little time to be concerned about feelings. When the breather comes, there is a universal let-down. "It wasn't as bad as I thought it would be," is the usual reaction.

Fear in combat, as will be shown later, serves a useful purpose, but the emotional experiences prior to combat, as just described, can be nothing but harmful if allowed to develop unduly. The best preventive is to keep busy. Training and more training, particularly simulated combat, is the ideal antidote. This should be buttressed by educational devices—movies, lectures, discussion groups—designed to impress the men with the importance of their mission and of the fundamental causes for which they are fighting.

The feeling of righteousness, of self-sacrifice, the crusading spirit, the thrill of anticipated adventure are additional emotions which many men experience before an operation. These should be encouraged, since they are inspiring and productive of vigor and firmness of purpose.

Normal reactions in combat

Military combat is probably the most abnormal life situation to which large groups of human beings are forced to be subjected. The stresses are rarely duplicated, even in part, in normal living, and are never continued over such a prolonged period. Foremost is the ever-present danger of death or mutilation, the necessity to kill or maim the enemy, to destroy his stores and possessions, to live under conditions of physical hardship, overexertion, extreme fatigue, and often inadequate food, water, sleep or shelter. No normal man can

exist long under such conditions without developing symptoms of at least a mild degree.

Among the earliest and most common nervous symptoms to appear in the normal man in combat is an inner feeling of tension and strain, difficult to describe. The individual feels "keyed up" and unable to relax. Usually accompanying this is an increased sensitivity to noise, unexpected sounds causing a pronounced startle reaction and often irritability. Later, appetite disappears and there is no relish in eating. Sleep becomes fitful or impossible and there may be terrifying dreams. Under unusual circumstances, such as witnessing the death or mutilation of a buddy, all these symptoms become more severe and more serious ones may occur. An acute grief reaction may result in marked emotional instability, absent-mindedness and inefficiency at work, and tremor of the hands and fingers.

It is to be noted that though these symptoms may decrease a man's value at the fighting front, they need not entirely incapacitate him. The average normal man is able to continue in a state of constant fear, at times approaching terror and panic, for many days. It is said that eventually, with profound fatigue and physical depletion, a state of numb apathy appears. The man no longer seems to care what happens, he hardly thinks at all, but functions in a mechanical almost automatic way. Such things as physical discomforts become utterly unimportant. Mud, wet, dirt are ignored. Sleep in the usual sense is prevented by the need for constant alertness, but even in a foxhole full of water, a man can become unconscious for a time when he is off watch. The true "battle-weary" stare can be seen in these men, not so much haggardness as a vacant stupor. Acts of great bravery may be performed by a man in this condition. He vaguely hopes he will be hit, preferably only wounded, but in any event sufficient to "get it over with." If he is hit, the sudden release of tension not infrequently results in a feeling of jubilation which is unmistakable.

What makes a man carry on in the face of such overwhelming forces? Obviously, something works on him in even a stronger way than his instinctive desire to avoid danger and almost intolerable discomfort.

But the question is much the same in civilian

life. What makes a man behave as he should? The answer is that the reasons are different in different people. In some it is a matter of religious principles, ethical scruples, home training, ideals, desire for parental approval, or for public respect and esteem. We would like to think that all people behave themselves for such reasons. But we nevertheless have laws in the land, a policeman on the corner, and a fixed set of penalties and punishments for the wrong-doer. It is unfortunately true that many people stay on the straight and narrow because they are afraid of the possible consequences if they venture off.

Similarly, there are lofty and inspiring reasons why men stay in the front lines, why they face death itself without flinching. Patriotism, idealism, religious fervor, emulation of a good leader, loyalty to one's outfit, to one's buddies, and to one's own self-respect—these are all powerful, and strongly motivating forces in many men. Unquestionably, they are the finest of forces and we should certainly encourage and develop them to the highest possible pitch. But we must have a way of controlling the other type of man also.

Unhappily these are men who are frank to admit that they stay in the front lines only because they know they have to. These men also make satisfactory riflemen in spite of their attitude, and we must have them. It is for this reason that military discipline has to be strict, firm and unyielding. The importance of such an analysis of motives will be seen a little later when we come to consider methods of preventing and treating NP breakdowns.

A word should also be said regarding the truly remarkable powers of the human body to withstand such maltreatment as occurs in battle over prolonged periods. The ability of the body to adjust to the most trying of circumstances, the latent power and endurance which lie within it are always surprising when the crucial test arrives. When it seems as though exhaustion has reached its utmost, the stimulus of danger or extreme emotion may yet result in a supreme effort and a sudden resurgence of reserve strength. The secret of this phenomenon lies in the almost miraculous properties of a part of our body known as the adrenal gland.

Adrenin, which is manufactured in the adrenal gland, is poured into the blood stream whenever an individual becomes frightened, enraged, or excited. The results are instantaneous and result in widespread changes in the body which make it ready for action in "condition red." Breathing becomes quickened, so that more oxygen is taken up, the heart beats faster and more forcibly so that there is greater circulation of blood, sugar is poured out from the liver to serve as fuel, the blood supply is increased in the muscles and brain where it is going to be needed, the reaction time in the nervous system is speeded up, and the blood even clots faster in case bleeding occurs. The same sort of thing happens in all animals in an emergency making

them better able to fight or run. It can be seen, therefore, that fear, which is a natural and universal feeling in all men in combat, serves a useful purpose.

Unfortunately, many men do not realize how normal their fear is. They interpret it as a weakness in themselves, as cowardice, and they become frightened of the very fear itself. If they are in a position where they can do nothing about their fear in the way of action (as when they lie in a foxhole under shell fire), they may develop symptoms which increase their fear. The adrenin is wasted in such a case and the individual feels only the unpleasant effects—pounding of the heart, labored breathing, "butterflies in the stomach," and trembling of the muscles and fingers.

The first step in conquering fear is to understand how normal it is and what it does to one's body. The next step is to do something physically if possible so as to use up the adrenin and keep one's mind busy. Good training is all-important here. If action is impossible, it helps to at least verbalize one's feelings. Talking it out with someone else who is in the same boat helps lighten the load. And the men who can force himself to try to cheer up the other fellow is often surprised to find how much he gets cheered up himself.

Combat fatigue

Every man has his breaking point. The stoutest-hearted among us can stand just so much and then something happens and he can take no more. Exactly what it is that happens at the crucial moment is still poorly understood. The result, however, is unmistakable, and often dramatic. The fighting man suddenly becomes helpless. He may collapse, burst into uncontrollable tears, throw himself into wild hysterics, or wander about in a daze. There is no way of predicting what kind of reaction a particular individual will have. The net result is the same. Temporarily at least he is of no value as a combat man. He may even be a hazard. In a frenzy he may fire his weapon dangerously; in a fog he may head aimlessly toward the enemy. Such a man not only removes himself as an effective fighter but often removes others who are required to take care of him.

The emotional effect upon others must also be taken into account. Seeing a buddy physically wounded may increase a man's fury against the enemy. Seeing him in a nervous or mental breakdown causes uneasiness, confusion and a tendency toward similar breakdown. It is not unusual for a hysterical type of nervous disorder to spread by imitation like an epidemic. There have been numerous instances, mostly in other branches of the service, where whole outfits have been wiped out by nervous breakdown in combat.

It is clearly important that the line officer understand as much as possible about the methods of

prevention of "combat fatigue," the term now used to designate the nervous breakdown of essentially normal men in combat (comparable to "shell-shock" in World War I). There are various factors involved:

1. *Selection.* Since some men can withstand stress and strain much better than others, it is desirable that only the most resistant be chosen for front line duty. The weakest and most susceptible are usually weeded out by psychiatric screening at induction stations and aptitude boards at boot camp. Further screening occurs automatically in later training, since some men are unable to stand the strain of prolonged absence from home, rigid regimentation, and the privations and exertions of field living. The line officer can do much to assist at this point by referring the "weak sisters" to the psychiatrist for examination. It does no good to attempt to make effective troops out of material that is too far below standard. You can't make a silk purse out of a sow's ear.

The worst mistake is to head a man for combat as a form of punishment or because it is felt he is no good for anything else. Ask any officer who has been in combat and he will tell you that such men are the bane of his existence. What is required is the best men, the cream of the crop, not the leftovers. The weaker men are the ones that should be left in the States or in the rear echelons. Even in a combat division there are safe spots which should be reserved for men who are not likely to hold up well at the front. The objection that this places a premium on weakness, that we kill off only our best men, is unsound. We plan the war to win, not to lose. Where the going is toughest, where the worst is demanded of the individual, that is the place for the men who have most to contribute. The net results will be more of the enemy killed and less of our own men. The fact that the men lost will be among our best men is of the essence of war and its fundamental waste. If we wish to go all out against a formidable enemy we cannot afford to put forth second-best efforts.

2. *Mental health.* Probably the best defense against combat fatigue is a high state of robust mental health. The subject of mental health in military life has been discussed at length in the first article in this series (GAZETTE, Nov. '45). It is sufficient to point out here that this is not just a theoretical matter. In actual practice, two regiments in the same division, undergoing the same degree of combat (as indicated by duration and number of killed and wounded in action) may suffer widely different numbers of combat fatigue casualties. The crucial determining factor is the morale of the men, and when the chips are down, morale depends more on good leadership than on anything else. It is the demoralized troops that break down in combat. "Demoralized" means loss of morale.

3. *Deployment and management.* The conditions and type of battle determine to a considerable extent the incidence of combat fatigue. There is likely to be little in amphibious landings; things are happening too fast and there is plenty of give and take and rapid movement. Successful patrolling and jungle warfare is also borne relatively easily by marines. Being ambushed or pinned down, however, is apt to result in not only physical but mental casualties. The same is true of prolonged mortar and artillery fire, or bombing. Enemy small arms fire can be tolerated, especially if there is something to shoot back at. But to lie in a foxhole and take hour after hour of shelling is a terrific strain. Unfortunate accidents also result in a heavy toll of combat fatigue, as, for example, when our own artillery or naval gunfire falls short. Men take this as a crowning indignity and their self-control is apt to snap.

IN ANY type of warfare, the amount of combat fatigue will depend to a considerable extent on the skill with which the specific causative factors of nervous disorder are avoided. Frequent rotation of troops in the front lines, with no more than four day cycles if possible, will result in great gains with respect to mental stability and efficiency of the men and the low incidence of combat fatigue. When the character of the operation makes this impossible, it still helps enormously if the men can be given some idea as to when their ordeal is likely to be over. A man can stand a great deal when he knows that every day passed is one more day nearer a known definite goal. The greatest emphasis on providing adequate food, water, and other supplies, including mail, is of course of utmost importance. And, come hell or high water, the leader must preserve an atmosphere of optimism and good cheer. Nothing demoralizes so much as defeatism.

4. *Early recognition.* Every line officer realizes the importance of the earliest possible treatment for the physically wounded. It is equally important for the mental and emotional wounded. A fighting man is much like a truck tire. If you retread in time each may be good for a great deal more service; if you allow the wear to reach the vital fabric, then there is a blowout and each is through.

One should avoid as far as possible tagging a man as a "psycho case." Rest camps in the rear areas of each regiment, where men can stay for one or two days, and a larger rest camp for the division, where men can remain a little longer if necessary, have abundantly proven their worth in actual operation. The men do not have to consider themselves as patients, the idea that they will be returning to duty in a short time is clear to them from the outset, and there is the additional advantage that they do not have to part from their weapons as they do in a hospital. A marine without his rifle feels truly disarmed and stigmatized.

It goes without saying that the more severe cases

should be referred to the medical officer at once. Only in this way can irreparable harm be prevented.

5. *Resistance.* A word of warning must be added here because of the tendency of occasional line officers to bend over backward with regard to turning men in for combat fatigue. There are times when men have been in the lines for many days and the going is tough, when it is a tremendous temptation to a man to turn in. Everyone in the outfit is close to the ragged edge and holding on by sheer guts. If an officer now begins to feel unduly sorry for his men (perhaps because he himself has little reserve left) and sends them back for rest too freely, he may soon find himself without anyone to command. A military position may be seriously jeopardized in this way.

It must be recognized that under great stress men will sometimes turn in as readily as you will let them. It is just at such times that the officer must exert his utmost to resist weakness both in himself and in his men. The fate of an attack or of a battle may be hanging in the balance. This is the time for all those elements of stirring leadership that tip the scales, that spells the difference between success and failure. This is the time for the officer to get tough if need be. No man can be spared. Better to risk a few serious crack-ups than to risk the mass demoralization that invites disaster. The line officer may be assured that the medical department will back him up one hundred percent. As much as medical officers and corpsmen are interested in protecting and safeguarding the individual, they also must be tough at such a time. The battle is the pay-off!

Treatment

The line officer should understand certain aspects of the treatment of combat fatigue in order to be able to cooperate effectively with the medical officer when necessary. Though the treatment of combat fatigue is not yet standardized, the following features are used by most psychiatrists:

1. *General care.* Since a large share of the cause of the breakdown is physical exhaustion, as discussed previously, primary emphasis must be placed on rest, sleep (with sedation as required), and nourishing diet (hot food if possible—intravenous blood plasma for the most seriously depleted). Shower baths and clean clothing help considerably and patients usually appreciate the opportunity to shave and have their hair cut. The atmosphere of the ward and surroundings are made as pleasant as possible, with music, quiet games, reading material, outdoor sports and the services of the chaplain and Red Cross representatives to support and divert the patient's mind from his trying experiences. But—and this is vitally important—all this should take place as near the front as possible, preferably no further back than the division field hospital. If a man gets too far removed from the war and his buddies he feels out of it and is not

much inclined to return. This ties up with the next point.

2. *Coercion.* Treatment is based on the assumption that the patient is going back to duty. It is implicitly taken for granted that it is only a matter of time. The doctor in his discussions with the patient points out that such breakdowns are but temporary, that nervous wounds heal as well as flesh wounds and that the speed of his recovery depends greatly on his desire and ability to get a grip on himself. The attitude of the corpsmen and everyone who has contact with the patient is one of cheerful optimism. All this is indirect pressure designed to move the patient in the right direction, toward recovery and return to the lines. It is essential in counteracting the strong tendency to sink deeper into the nervous disorder and escape the responsibilities of further action.

How soon the patient is returned to duty depends upon the severity of the case, the rate of his recovery and the need which exists for him at the front. When replacements are few and the going is difficult, pressure may be increased in mild cases and the patient returned earlier (perhaps in 2 or 3 days). He might still enjoy having further rest, but by this time he is probably a lot better off than many of his buddies who have stuck it out at the front and are far more tired and jittery than he is. The patient can be made to understand this. Often he is eager to go back. "They need me there, doc," many of them will say. Some are not enthusiastic, but are willing to go knowing that it is as much their duty to go as it is for those in the lines to stay. Rarely, a man resists going back not because of genuine symptoms but because of a deliberate desire to avoid further danger. Here the medical officer must become very firm. Once weakness were allowed to creep into his procedure, the story would get around and the effect upon morale might be disastrous.

The line officer should understand these principles. He may recognize but should not resent the fact that some of his men are returned to him before they are as rested and stable as fresh troops. They may not be as valuable as they once were, but they are better than none. If they get a reasonable break, they will be able to stick it out, recover their self-respect and continue their improvement. Some may crack up again, but this is a chance that must be taken for the sake of the over-all picture.

The line officer can do a great deal to prevent a further breakdown by seeing to it that the man is welcomed back in the same way that he would be if he had been physically wounded. He should above all prevent any slurs being cast at the man's character or courage. This man was not "yellow!" This is the time when the man needs moral support as at no other time. The men will usually take their cue from the officer. If the officer accepts the man back gladly as a worthy and welcome member

of the outfit, the men will do likewise. The man who has just been a patient with combat fatigue and who may still be very much on the ragged edge will then be bucked up inside and encouraged to put out his best efforts to be worthy of the trust being placed in him.

3. *Reassignment.* For some serious cases, return to the front is out of the question. To send these men back would not only endanger them but their outfits. Yet some of these men could do useful duty in a rear area of their own division where they are not exposed to the sights and sounds of battle. When such a man has seen long service in the Marine Corps, is extremely desirous of continuing to serve where he can, and has something worth while to contribute, every effort should be made to reassign him to duty that he can handle. He may thus free another man for duty in the front lines and help keep the division up to strength. The number of such reassignments, however, must be kept limited.

4. *Evacuation.* The most serious cases are finished as far as further duty in combat is concerned. They must be evacuated far to the rear and usually to the States for prolonged treatment that may extend over several months. Much can be done for these men to prevent the type of invalidism that was so common after World War I. For most of them, limited duty in the States is not only possible but desirable. They will then not only continue to make a contribution in the service but their further recovery will thus be speeded up.

Operational fatigue

The symptoms of combat fatigue may occur in individuals who are not in actual combat. The term "operation fatigue" is used in such cases when it is felt that prolonged strenuous duty has resulted in the same type of emotional strain in an essentially normal person. Typical examples may occur in men who have had many months of sea duty, or who have taken part in two or three combat operations, or have had many months of garrison duty on a small barren island. Characteristic symptoms are chronic fatigue, lassitude, loss of interest, irritability and increasing inefficiency. There may be serious loss of weight associated with impaired appetite and insomnia. These men do not respond readily to treatment and if they are not returned to the States they tend to grow steadily worse. Some cases develop or continue in the States and must be surveyed out of the service. Proper treatment, however, usually results in a satisfactory cure. The greatest benefit can be accomplished if these cases can be seen early. If there is any doubt regarding a man's nervous condition, it does no harm to arrange a consultation with the psychiatrist at once. When the man shows signs of depression or despondency, there is a danger of suicide, and the matter should be considered urgent.

Two Flags at Tarawa

(Continued from back cover)

For the first time, the Japanese grinned.

"He 'fraid of Japanese, yes?" he asked. The troops enjoyed a good laugh. The radio was safe.

When the Japanese left Barieki, they made Maj Holland call his boys to attention and tell them they were now subjects of Japan.

"That goes for you, too, old Englishman," the officer said.

Holland got in touch with Morgan, and word was sent to Fiji.

In leaving the Gilberts, Maj Holland said, the Japanese took a small schooner. Two months later, the native crew returned. They said they had gone to Makin, where the Japanese were building heavy defenses. Morgan flashed this word to the outside world. Later, when the American fleet bombarded the Marshalls, Holland was pleased to hear they had also struck at Makin.

In May, a lifeboat washed ashore on Barieki. It was off a merchant ship, torpedoed 2,000 miles away, near Hawaii. Of the 24 men aboard, 16 were dead. Two more died in the Gilberts.

Holland worked frantically to repair the boat. Finally, he was able to set out for Fiji. Sadd, Morgan, Handley and MacArthur chose to remain.

Eighteen days later, they reached Fiji. Maj Holland urged that Morgan be rescued, but was told he must remain at his spot. Finally, word came that Japanese troops had arrived in the Gilberts in force. Morgan destroyed his radio, and silence descended on Tarawa. Maj Holland did not learn of his friend's fate until he returned with the Marines.

Maj Holland and his superior, LtCol Vivian Fox-Strangeways, governor-general of the Gilberts, are now back at their posts. The battle for Tarawa, one of the fiercest of the Pacific war, ended Japanese domination two years after it had begun.

And now that the war is over, the story of 23 Europeans who were brutally slain by the Japanese can be told. It is not one of the worst of the war, for we have available the record of the "Death March" on Bataan, and of the beheading of American fliers in China and Japan.

It should be told, perhaps, so that we may better understand why the Union Jack and the Stars and Stripes were raised, side by side, after the battle was over. The Marines were not alone in shedding their blood in the Gilberts.

Strategic Air Power

(Continued from page 29)

Nazi system you have the problem faced by the air force.

Primarily the campaign against the Nazi communications system was tactical, but there was enormous strategic gain derived as a byproduct. Only 25 per cent of the system's capacity was used to carry military freight. At least 50 per cent employed in the war economy. The result: any reduction in capacity had more than twice the impact on industrial operations than on the military. The top priority carried by military freight put almost all the strain of reduced capacity directly on industry.

The attack on transportation was the decisive blow that completely disorganized the German economy. It reduced war production in all categories and made it difficult to move what was produced. A further effect was the limitation imposed on the tactical mobility of the German army.

At the war's beginning, Germany had an excellent railway system. There was general excess capacity in both lines and yards and standards of maintenance were higher than those general in the United States. Sporadic attacks prior to September 1944 did not seriously reduce its ability to handle traffic. The vastly heavier strikes on marshaling yards, bridges, lines and on trains disrupted traffic seriously all over western Germany. Parallel attacks on the waterways were even more successful.

The drop in coal traffic will illustrate. The September raids cut coal-car placements in the Essen division of the Reichsbahn (originator of most of the coal traffic of the Ruhr) from a daily average of 21,400 at the beginning of the year to 12,000 cars. By the following January, placements in the

Ruhr were down to 9,000 cars daily and a month later, virtually complete interdiction of the Ruhr district was achieved. Between October 1944 and February 1945, coal stocks in the Reichsbahn itself were reduced from 18 days supply to 4½. By March, some divisions in southern Germany had less than a day's supply on hand and locomotives stood idle for lack of coal. The Ardennes counter-offensive, for which troops and equipment were marshalled via railroad, was the last gasp of the Reichsbahn in the west.

One of the secondary campaigns contributed to the communications paralysis of the Reich. Factories making tanks, armored vehicles and trucks received intermittent attention from 1943 on. In the last half of 1944, German truck production was hit a body blow. Of the three plants producing most of Germany's trucks, Opel, at Brandenburg,

"At every conversation with the Fuehrer I used to ask, 'When will the Luftwaffe arrive?'" Kesselring to Survey.

was wiped out in an August raid and never recovered. Daimler Benz was eliminated by bombings in September and October. The third, Ford at Cologne, was not hit, but records show that production dropped sharply because of the destruction of component suppliers and of its power supply. The net was to bring down production figures in December 1944 to 35 per cent of the average for the first half of that year.

In November 1944, there was a return to the strikes against the submarine building yards to delay the launchings of the new Types 21 and 23. The failure of the Nazis to get more than eight of these into the water cannot be attributed to the attacks,



Strategic bombing choked off the Nazi fuel supplies from the rich Ploesti oil fields.

although all five of the major yards were either closed or severely damaged, but on the ground investigation indicated that these bombings, coupled with the attacks on transportation would have removed the threat of further production of this submarine had the war continued.

A number of secondary campaigns and attacks were carried on by the 8th and the 15th as corollary to the big three. Armament, textile and ordnance plants were hit and hurt. But generally speaking they weren't conclusive. The best example of these was Schweinfurt where nearly 60 per cent of the entire Axis anti-friction bearing production was concentrated in three plants.

A series of raids were sent against these plants, beginning August 17, 1943. The first raid, 200 B-17s severely damaged the plants to the extent that September production was 35 per cent of pre-raid output. It was expensive. Thirty-six of the attacking planes were knocked down. The famous and much discussed second attack was mounted October 14th of the same year. The plants were again severely damaged and the raid was the scene of one of the decisive air battles of the war. Two hundred and twenty-eight bombers were jumped by GAF fighters just as they got beyond the range of their escort. Sixty-two Fortresses were shot down by GAF fighters and flak, and 138 damaged, some beyond repair. Losses of this size could not be absorbed. As a result, deep penetrations without escort were suspended.

The Nazis used the ensuing breathing spell to rebuild—assigning unlimited priority for men and materials. Germany was redesigned to substitute other types of bearings wherever possible and stocks on hand were drawn on to fill the gap. Post-war examination failed to turn up any evidence that the attacks on the ball bearing industry had any measurable effect on essential war production.

The successes scored by the strategic bombers of the 8th and the 15th were considerable and a major factor in the defeat of the Third Reich. However, reports and analyses given out during the campaign tended to exaggerate certain phases of their effectiveness and in the light of post-war study and examination on the ground indicate that errors of omission and commission were made. The planners missed several good chances to paralyze certain specific industries. It was thought that German power industry was too flexible to be hit effectively when the facts as later revealed showed the power grid to be a softspot. It has also been established that during 1944, when there were whispers of an imminent Nazi collapse, that the Reich production hit an all-time high.

On the other hand, Allied miscalculations were less injurious to the cause than those of the Axis. There is abundant evidence to show that top war management, contrary to popular belief, was far from efficient. German industry was not fully mobilized for war until after the defeat by the Rus-

sians at Moscow. To the contrary, anticipating an easy and swift capture of the Soviet capital, Hitler had ordered certain industries to demobilize and reconvert. Because of this undermobilization, and plentiful and incompletely used plant and machinery, the Reich was resilient under air attack. Mobilization could be stepped up, and excess plant and tools substituted for those destroyed to cushion the effect of bomb damage.

The magnitude of the raids required that assembly and attack techniques, undreamt of before the war, be developed. The 8th, for example, worked out a means of assembling large numbers of planes through an overcast. Groups rendezvoused over a "buncher" a short range low frequency beacon and made wing rendezvous over a "splasher" (MF/DF) beacon. Different altitudes were assigned, and the climb and orbit pre-arranged. It was a hazardous and difficult maneuver, but it permitted operations during weather which would otherwise have made scale attacks out of the question. Mud and icing raised the devil with all phases of operations. So did frost. Fog was beaten by FIDO which cleared landing fields of soup for homecoming craft. Weather en route and over the target presented difficult problems. The Scouting Force was developed to go ahead of the main flights and act as a seeing eye. At the end of the war, almost all operational problems had been overcome except Nazi flak.

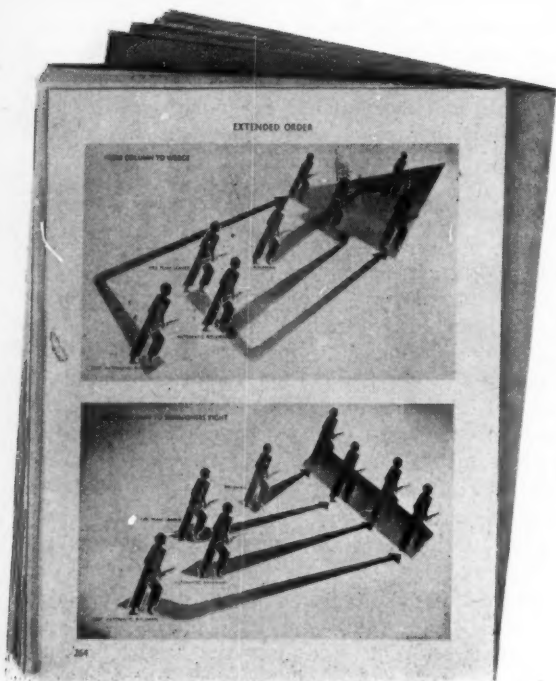
"I reported for the first time orally to the Fuehrer that if these aerial attacks continued a rapid end of the war might be the consequence." Speer on the Hamburg attacks.

The conclusions drawn by the U. S. Strategic Bombing Survey, after analysis of bomb damage and extensive examination of Nazi records, filled out by interrogation of Nazi leaders and industrialists, were that the power and superiority of the whole air effort made possible the success of the invasion. They also stated that the air campaigns brought the economy which sustained the enemy's armed forces to a virtual collapse, although the full effects of this collapse had not reached the enemy's front lines when they were overrun by the Allied forces. They view its imprint on the German nation as lasting.

The survey also includes the following "signposts"—that the German experience suggests that even a first-class military power—rugged and resilient as Germany was—cannot live long under full-scale and free exploitation of air weapons over the heart of its territory.

And again:—that "no greater or more dangerous mistake could be made than to assume that the same policies and practices that won the war in Europe will be sufficient to win the next one—if there should be another."

END



YOUR COPY AVAILABLE AT LAST

... after a Year of Preparation

“GUIDEBOOK FOR MARINES”

... over 800 illustrations and photos

UP-TO-THE-MINUTE

To satisfy a long-felt need, *The Leatherneck Magazine* proudly presents this new *Guidebook for Marines*, now on sale at your PX. Compact, concise, easy-to-read, profusely illustrated, completely indexed, this book contains the basic information that *every* Marine—officer and enlisted man—is expected to know. In this book, countless vital lessons learned on the battlefields and training grounds of World War II have been added to the traditional “know how” of the Marine Corps.

WHAT'S IN IT?

The material included is the result of a thorough study made of combat reports, training SOPs and instructional doctrine of the Marine Corps Schools. The basic, yet comprehensive nature of the material is apparent from this partial list of contents: **Rank and Insignia — Interior Guard — Chemical Warfare—The M1 Rifle—The Carbine — The Squad in Combat — The Rifle Grenades—Basic Communications—Fighting in Towns—Tank Infantry Tactics, etc.**



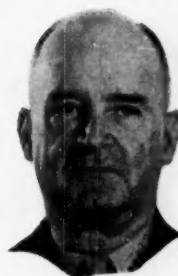
HERE'S WHAT THE COMMANDANT HAS TO SAY

1. This volume has been prepared as an aid and a guide to Marines. It represents the combined work of the Marine Corps Schools, Division of Plans and Policies, and the staff of *The Leatherneck Magazine*. The information is briefed and condensed in some cases in order that the volume as a whole might be a handy and comprehensive reference book. Emphasis has been placed upon the use of illustrative matter throughout.

2. No one volume can provide an answer for every problem that will confront a Marine nor take the place of individual initiative. Remember that the best Marine

is the one who combines knowledge and essentials with common sense and good judgment to arrive at a solution dependent upon the circumstances.

3. Each Marine will find herein the essentials of his work. His everyday tools are carefully explained and shown. If it helps to make you a better Marine, then the efforts of the cooperative departments have been well expended.



FIRST PRINTING LIMITED

Quite naturally, a large number of officers and enlisted men are eager to secure copies of a guide that is so unusual—so easy to follow and put into practice. But, unfortunately, our first printing has been necessarily restricted to a limited number of copies. There are only enough,

in fact, for about one Marine in ten. Therefore, to make sure of a copy—it is advisable to visit your PX at the earliest opportunity. Or merely send check or money order to: Guidebook for Marines, c/o Marine Corps Gazette, 1121 14th St., N. W., Washington 5, D. C.

\$1.00

GET YOUR COPY NOW! USE EASY ORDER FORM BELOW

Guidebook for Marines c/o Marine Corps Gazette
1121 14th Street, N. W. Washington 5, D. C.

Sirs:

Please send me _____ copies of "Guidebook for Marines" at \$1.00 each, postpaid.
I am enclosing \$_____ by check _____ by money order _____ (Please mark one).

Last Name

First Name

Middle Name

Rate

Ser. No.

Station

To make sure of prompt delivery, notify us of any change in address.

G-A

Special Book Service

GAZETTE BOOKSHOP

1121 14th Street, N. W., Washington 5, D. C.

Reading is Your Best Entertainment

The books listed on these pages were especially selected from the current catalogues of leading book publishers. Latest best sellers and popular favorites in both fiction and non-fiction are represented.

Marines who want to add to their collection of books about the Marine Corps will find those books listed under "About Marines" the best in the field, and hand picked for your enjoyment.

Use form on page 64 to order books.

NEW BOOKS—BEST SELLERS

Cass Timberlane 128A

By *Sinclair Lewis*. Sinclair Lewis' latest novel of passion and struggle between a man and a woman bound by the torments of jealousy and the quiet of their unity. \$2.75

All Out for the Sack Race 129A

By *Robert Day*. An album of cartoons by a famous *New Yorker Magazine* artist—his best and funniest drawings. \$2.50

A Treasury of Satire 130A

By *Edgar Johnson*. Including the world's greatest satirists, comic and tragic from antiquity to the present time. Selected and edited with critical and historic backgrounds. \$3.95

Atomic Energy for Military Purposes 144A

By *Henry DeWolfe Smyth*. 250 page book illustrated. Official report authorized by the Army concerning the atomic bomb and atomic energy in general. \$1.25 (paper)

Ask No Quarter 49A

By *George Marsh*. Sea stories of the New England coast and pirate trips to the West Indies. \$3.00

Sixty Million Jobs 135A

By *Henry Wallace*. "This book sets forth my belief that we can attain the goal of 60 million jobs and a national income of \$200,000,000 without a 'planned economy'..." \$1.00 (paper)

Prize Stories of 1945 145A

O. Henry Memorial Award prize stories. Eighteen distinguished authors represented. \$2.50

The Blue Danube 43A

By *L. Bemelmans*. Bemelmans has woven his latest most warm-hearted tale of surprise, adventure and comedy. \$3.00

The White Tower 142A

By *James Ramsey Ullman*. Book-of-the-Month choice—soul-stirring story of five men and a woman who face the terrible challenge of an unconquered mountain. \$3.00

Green Dolphin Street 139A

By *Elizabeth Goudge*. "A fine piece of fiction skillfully and satisfactorily wrought . . . a great story of love . . . a soundly conceived historical tale." \$3.00

Rickshaw Boy 107A

By *Law Shaw*. Powerful story of a China few Americans know—about a China toiling, sweating, loving, suffering. \$2.75

So Well Remembered 109A

By *James Hilton*. Story of a plain man and a remarkable woman and her sinister influence over three men. Struggle for mastery that is fought to a bitter end. \$2.50

Up Front 108A

By *Bill Mauldin*. Over 100 cartoons by this famous cartoonist as well as a running story of his observations and experiences at the front. \$3.00

The Upstart 44A

By *Edison Marshall*. Sex rears its lovely head in the days of George II. Romances of a leading lady in the Elizabethan theater. \$2.50

That Girl From Memphis 57A

By *Wilbur Steele*. The Kansas Kid in a vigorous novel of a Western mining town. \$3.00

A Lion Is In The Streets 58A

By *Adria Langley*. The story of the rise of an American demagogue (Huey Long?). \$3.00

Stallion Road 59A

By *Stephen Longstreet*. Love, violence, passion—Longstreet has created a vivid and colorful world in STALLION ROAD. \$2.75

A Bell For Adano 42A

By *John Hersey*. An Italian-American army major helps solve the problems of an occupied town despite red tape. \$2.50

The Razor's Edge 30A

By *Somerset Maugham*. Over a million copies have been sold already. \$1.00

Cannery Row 48A

By John Steinbeck. A tender and hilarious novel set in Monterey, Calif. Steinbeck has created a fascinating world of his own. \$2.00

Captain From Castile 45A

By Samuel Shellabarger. You will enjoy this one if you liked THE COUNT OF MONTE CRISTO or THE THREE MUSKETEERS. \$3.00

Leave Her to Heaven 24A

By Ben Ames Williams. Story of a woman who is judge and executioner cheating earthly justice at every turn. \$2.50

The Green Years 23A

By A. J. Cronin. A memorable account of Robert Shannon's struggle into manhood, fighting staggering odds to have his soul. \$2.50

Mom I'm Home 164A

By Syd Hoff. Everything happens to the returning GI in this cavalcade of timely laughter—a big, bright book filled with hilarious cartoons by one of the New Yorker's master laughmen (56 favorites and 44 new ones). A must among the cartoon books. \$2.00

The Best American Short Stories 163A

By Martha Foley. The finest of the short stories of the year which have appeared in magazines, representing the work of promising new writers as well as some of the established ones. \$2.75

The Black Rose 152A

By Thomas B. Costain. Adventure and romance in the fabulous, exotic Orient during the time of Kubla Khan. This Literary Guild selection comes close to perfection as entertainment. \$3.00

The Peacock Sheds His Tail 155A

By Alice Tisdale Hobart. Sweeping novel of our good neighbors to the South. The affect of social change on three generations of an aristocratic Mexican family. \$2.75

General Marshall's Report 157A

By George C. Marshall. The Winning of the War in Europe and the Pacific. General Marshall's summary of the achievements of the armies of the United States on all fronts. Paper, \$1.00; Cloth, \$2.50

The Wolf 158A

By Sgt. Leonard Sansone. A book of cartoons dealing with the skirt-chasing GI reminiscent of "Male Call" and with a foreword by Milton Caniff, creator of Terry and the Pirates. \$1.00

The Cossacks: Story of a Warrior 159A

By Maurice Hindus. The history of the fightingest of all Russians—the COSSACKS, the 500-year old history of the world's most colorful warriors. Illustrated with front-line news photos of the Cossacks' role in World War II. \$3.00

My Twenty-five Years in China 161A

By John B. Powell. Since 1917 the author has been in the thick of things in China, reporting civil wars and invasions, kidnapped by bandits, imprisoned and tortured by Japs. His vivid and extremely readable account of these years also sums up and interprets a quarter-century of China's history. \$3.50

POPULAR FAVORITES

Northwest Passage 65A

By Kenneth Roberts. Rogers' Rangers against the French and Indians. Discovery of route across America to the Pacific. \$3.00

Commodore Hornblower 50A

By C. S. Forester. All who love a good sea story will gleefully welcome this new book. \$2.50

The Bedside Bonanza 56A

Fast-moving stories by John Collier, Street, Gallico and 43 others. \$2.49

Stories For Men 16A

35 thrillers by Hemingway, Faulkner, Cain, Hammett, Runyon, Lardner, etc. \$1.49

New Stories For Men 41A

640-page selection—humorous, sports and mystery stories. \$1.49

The Memoirs of Casanova 122A

A history of the world's No. 1 lover—about his love affairs by himself. \$2.49

The Collected Short Stories of Ben Hecht 123A

A collection of some of the best stories by a famous short story teller. \$3.00

Great Sea Stories 125A

29 famous classics of the sea by American, British and foreign writers. \$2.49

A Treasury of American Folklore 126A

Stories, legends, tales, traditions, ballads, songs of the American people. \$3.00

Twenty-five Short Stories by Stephen Vincent Benet 29A

Two complete books of stories in one by one of the present-day masters of the short story. \$1.49

Napoleon, Man of Destiny 111A

By Emil Ludwig. A splendid biography of Napoleon giving a complete portrait of one of history's great military geniuses. \$1.98

The Shorter Novels of Herman Melville 114A

Sea stories by the author of MOBY DICK, one of American literature's great names. \$1.98

Joyce Kilmer's Anthology of Catholic Poets 115A

A most worthy edition brought up to date of outstanding Catholic poetry. \$1.98

The Story of America 116A

By Hendrick Van Loon. A thrilling magnificent story of the backgrounds of our country and of the pioneers who built it that we might live. \$1.98

Bedside Esquire 2A

Some of the best and most diverting writing of our time taken from Esquire Magazine. \$1.98

The Bedside Tales 33A

A treasury of stories by Benchley, Steinbeck, Hemingway, Perelman, Gallico, etc. \$1.98

Much Loved Books—60 Best Sellers of The Ages 118A

By James O'Donnell Bennett. Comprehensive collection of famous books by great writers. \$1.98

GAZETTE BOOKSHOP, 1121 14th St., N. W., Washington 5, D. C.

An Anthology of American Poetry 119A

A selection of the best works by American poets between 1630 and 1941. \$2.49

The Travels of Marco Polo 110A

A celebrated classic which deserves to be in every discerning reader's library. \$1.98

The Brick Foxhole 53A

By Richard Brooks. Jeff, bitter as a "desk chair Commando," thinks his wife untrue, gets drunk on liberty in Washington, is charged with murder. \$2.50

Here Is Your War 27B

By Ernie Pyle. A full-length, deeply human portrait of the American soldier in action. \$1.00

American Guerrilla 61A

By Ira Wolfert. The story of how Lt. Richardson, USNR, remained in the Philippines after the Japs came. \$2.50

Robinson Crusoe, USN 62A

By Clark. The incredible story of George Tweed, Navy radioman, who lived on Guam for 2½ years. \$2.75

Time For Decision 5A

By Sumner Welles. Welles has interpreted our foreign policy over the last years with conviction and clarity. \$3.00

The Complete Sherlock Holmes 28A

By A. Conan Doyle. Permanent library of every story about Sherlock Holmes—1,300 pages. \$2.49

Mystery Book 106A

By Mignon G. Eberhart. Thrilling stories of murder laid against the glamorous backgrounds of Jamaica and the New Orleans bayou country. \$1.00

Great Tales of Fantasy and Imagination 148A

Selected by Philip V. Stern. An anthology of the greatest tales of fantasy and supernatural in the English language. \$1.49

Sky Is My Witness 105A

By Capt. Thomas Moore, Jr. Inspiring record of a Marine dive bomber and how he fought in the South Pacific. \$2.00

Principles of Flying 811

Theory and background providing understanding of science and navigational principles. \$1.50

Written in Sand 31A

By Josephine Young Cass. A bizarre and touching moment in American history which all of us will want to remember. \$2.00

The Fountainhead 66A

By Ayn Rand. "A novel of remarkable vigor . . . strong, dramatic . . . exciting events, colorful characters, daring . . . a pleasure to read." \$3.00

Barefoot Boy With Cheek 30B

By Max Shulman. An outrageous and witty expose of American college life—a gay piece of impudence. \$1.00

Joe, the Wounded Tennis Player 72A

By Morton Thompson. Illustrated by Virgil Partch, introduction by Robert Benchley. A funny book packed with human comedy. \$2.00

I'm Gazing Into My 8-Ball 76A

By Earl Wilson. About New York night life. Eccentric whims of stars and famous people by the Saloon Editor of the New York Post. \$2.00

Gun Care and Repair 408

By Charles Edward Chapel. Everything about care, repair, alteration, decoration of firearms; use of tools and employment of scrap materials. \$2.75

Military Staff—Its History and Development 512

Historic significance of the military staff—how it works, how it developed—staff doctrine of modern allies—a survey from early eras to the present. \$2.00

LAUGHS AND CHUCKLES

Thorne Smith 3-Decker 12A

Three of his funniest novels, THE STRAY LAMB, TURNABOUT, and RAIN IN THE DOORWAY. \$1.49

Thorne Smith 3-Bagger 91A

3-in-one: SKIN AND BONES, THE GLORIOUS POOL and TOPPER. \$1.49

A Subtreasury of American Humor 112A

Over 800 pages containing more than 140 of America's funniest tales. \$1.98

The Playboy's Handbook 113A

By William Allen Brooks. A frolic volume for gentlemen full of chuckles and delightful entertainment. \$2.00

The Thurber Carnival 32A

By James Thurber. Here in one wonderful volume is the cream of Thurber's work. \$2.75

The Half-Haunted Saloon 46A

By Richard Shattuck. The hilarious story of some highly respectable people who inherit a saloon. \$2.50

Barnaby 29B

By Crockett Johnson. Cushlamochree! First collection of cartoons about the incomparable Barnaby and his fairy godfather, Mr. O'Malley. \$1.00

Try and Stop Me 34A

By Bennett Cerf. The funniest cracks, comments and stories of our wittiest citizens in the literary and entertainment world. \$3.00

Male Call 73A

By Milton Caniff. When GIs talk about comic strips, Male Call, by the creator of Terry and the Pirates, ranks high. \$1.00

I Never Left Home 1A

By Bob Hope. A giant omelet consisting of all the eggs Hope laid from London to Bizerte. \$1.00

Lost in The Horse Latitudes 26A

By H. Allen Smith. The third and funniest book by the author of LOW MAN and PUTTY KNIFE FACTORY. \$2.00

Low Man On A Totem Pole 74A

By *H. Allen Smith*. The Smith of Smith's first laugh classic, covering his first round of human screwballs. \$2.00

Life In A Putty Knife Factory 75A

By *H. Allen Smith*. Further adventures in madness, and anecdotes on many subjects. \$2.00

The Feather Merchants 77A

By *Shulman*. The first book by a soldier about civilians. Zany, hilarious, irreverent satire on the home-front war effort. \$2.00

CHILLS AND THRILLS**Puzzle in Petticoats 121A**

By *Kootz*. Brilliant mystery featuring diminutive Jason Emory and his ribald breezy adventures. \$2.00

The Trial of Vincent Doon 117A

By *Will Oursler*. Murder mystery with plenty of thrills. 65c

Six Novels of the Supernatural 20A

Six complete books jammed with the spookiest of spooks. \$2.50

Three of A Kind 33B

By *James M. Cain*. Violent deeds and violent emotions—passion and murder. 3 books in one. \$1.00

Creeps By Night 34B

By *Dashiell Hammett*. An omnibus of chills and thrills selected by the author of *THE THIN MAN*, *BLOOD MONEY*, etc. \$1.00

Crime Reader 35B

By *Agatha Christie*. Thrilling, baffling stories of crime featuring Hercule Poirot, Mr. Quin and Tuppence and Tommy. \$1.00

Great Tales of Terror and the Supernatural 13A

The most complete and hair-raising collection of ghost stories and tales of terror ever assembled. 52 masterpieces of horror writing. Over 1,000 pages. \$2.95

Great Ghost Stories of the World 22B

25 famous ghost and horror tales by the world's acknowledged masters. \$1.00

Modern Stories of Mystery and Imagination 23B

25 of the best tales of horror and mystery of the past decade. \$1.00

Perry Mason Omnibus 37B

By *Gardner*. Two Perry Masons in one cover. *THE CASE OF THE SHOPLIFTER'S SHOE* and *THE CASE OF THE DANGEROUS DOWAGER*. \$1.00

101 Years' Entertainment 94A

Collected by *Ellery Queen*. The great detective stories of over a century. Half a hundred of the best mystery-detective-crime stories. \$1.98

Nero Wolfe Omnibus 38B

By *Best Stout*. Containing *THE RED BOX* and *THE LEAGUE OF FRIGHTENED MEN*. \$1.00

SPORTS**Encyclopedia of Sports 22A**

By *Frank Menke*. Invaluable information on 108 sports and associations related to them. \$3.50

The New York Yankees 81A

By *Frank Graham*. New enlarged edition. "If you are interested in the Yankees you're a sucker if you don't buy Frank Graham's splendid book." \$3.00

Lou Gehrig, A Quiet Hero 79A

"There is no more dramatic story in fiction." \$2.00

Hoyle's Book of Games 32B

Here are the rules for all card games from poker to piquet. A great book for settling arguments. \$1.00

Official Sports Guides:

84A—Official Baseball	\$.50
85A—The Little Red Book of Baseball	.50
87A—Basketball Guide	.50
88A—Boxing Guide	.50

MacDougall on Dice and Cards 89A

An interesting book about craps, poker, gin rummy, and black jack. Not surprising if the reader finds himself winning more often. \$1.00

Oswald Jacoby on Poker 90A

Rules, psychology, odds, etiquette of America's own card game. Foreword by Grantland Rice. Pocket size. \$1.50

ABOUT MARINES**The Marines on Iwo Jima 122**

By *Five Marine Correspondents*. Official complete story of Marines on Iwo Jima. Recital of the exploits of individual Marines, names of those who died, photographs, maps, drawings. \$3.50.

Iwo Jima 120

By *Capt. Raymond Henri*. Complete 15,000-word report by an on-the-spot observer and 90 combat photographs tells this story. 75c.

A History of the United States Marine Corps 101

By *Colonel Clyde H. Metcalf*. Back in print—584 pages including illustrations offer the complete history of the Marine Corps from Tun's Tavern to the battles of World War II. An invaluable record which should be the proud possession of every Marine. \$4.50

Marine Corps' Reader 103

By *Col. C. H. Metcalf*. A collection of the best short writings about the Corps from Parris Island to the Marshalls. \$3.00

Guadalcanal Diary 105

By *Richard Tregaskis*. None can read *GUADALCANAL DIARY* and not feel grateful to those superb Marines for what they accomplished. \$1.00

Marines At War 116

By *Crane*. The paintings and sketches in this book are the work of Marines. \$3.00

Out in the Boondocks 113

By *Horan and Frank*. Here are the heart-stopping human personal accounts of 21 Marines. \$2.75

Betio Beachhead 117

The Marines' own story of the battle for Tarawa and Betio—every step of it. \$2.50

Boot 104

By *Corp. Gilbert Bailey*. This book gives an honest personal account of the whole grueling process of becoming a Marine. \$2.50

GAZETTE BOOKSHOP, 1121 14th St., N. W., Washington 5, D. C.

Medals For Marines

121

By *Boswell*. Sketches dealing with the gallantry of individual Marines awarded the Naval Medal of Honor. \$2.00

Do Or Die

201

By *Col. A. J. D. Biddle*. A manual on individual combat. Col. Biddle has combined the best principles of attack and defense in bayonet, knife fighting, jiu jitsu and boxing. \$1.00

Al Schmid, Marine

147A

By *Roger Butterfield*. Made into a movie hit—this story about a Marine hero who fought on Guadalcanal, winning the Navy Cross "for extraordinary heroism and outstanding courage in action." \$2.00

Tarawa

102

By *Robert Sherrod*. A stirring, accurate account of bloody Betio, the best battle story of the war. \$2.00

And A Few Marines

119

By *Col. John W. Thompson, Jr., USMC*. Here are undoubtedly some of the finest stories ever written about Marines, with illustrations by this famous artist-author. \$3.00

POSTWAR PLANNING

How to Start Your Own Business

95A

A step-by-step plan for the person who wants to start his own business clarifying the many problems involved in the operation of a retail business, from

the choice of location to the proper display of merchandise. \$2.00

A Small Store and Independence

96A

A practical guide to the successful operation of a small store, covering investment, finance, retailing, advertising, bookkeeping, selling, how to make a profit, etc. \$2.00

How to Get the Job You Want

97A

A book for every returning serviceman who wants to know how to get the job of his choice and how to keep that job. \$1.00

Five Acres and Independence

47A

A practical guide to the selection and management of the small farm. Location, financing, livestock, draining, etc. \$2.50

Your Own Store and How to Run It

136A

By *Robert F. Chisholm*. An expert tells veterans how to own a store and run it at a profit. Sections on merchandising, display and finance are included. \$1.00

Your Rights As A Veteran

137A

By *S/Sgt. Eli H. Mellan*. Complete guide for returning GI. Answers hundreds of questions simply and completely. Clearly interprets Federal and State laws on servicemen's rights. 50c (paper)

500 Postwar Jobs for Men

148A

By *Vocational Guidance Research*. Jobs for all kinds of vets—complete details on where and how to obtain them, salaries, opportunities for advancement. \$2.50

NOTICE: Because war-time shortages have interfered with normal publishing facilities it may be impossible to fill all orders. For that reason it is suggested you make two selections.

SEND AIR MAIL—

ORDER FORM

GET QUICKER SERVICE

GAZETTE BOOKSHOP

1121 - 14TH STREET, N. W., WASHINGTON 5, D. C.

Order by number only, enclosing remittance. Show first choice on the left—second choice on the right.

Enclosed is \$_____ for the following order of books:

No C.O.D.'s

FIRST CHOICE				SECOND CHOICE			
Book No.	Price	Book No.	Price	Book No.	Price	Book No.	Price

NAME

(Print)

ADDRESS

(Print)

FOR QUICKER SERVICE, SEND VIA AIR MAIL

G-1-46

Fingertip Artillery

The tanks with the 105mm howitzers

are a mobile artillery weapon instantly available to any regimental or battalion commander who wants to turn his heavy guns on a point target.

By 1stLt Owen W. Garner

FROM experience gained as an M7 platoon leader in combat on Okinawa, it is my opinion that the best use of the four M7s of the regimental weapons company, infantry regiment, is as "fingertip artillery."

The four guns should be placed in battery formation in a position not under direct enemy fire, at least 1,800 yards from the target and not more than 2,400 yards. A distance of 1,800 yards is recommended because the traverse of the 105mm on the M7 is so limited that at a shorter range it would not be able to cover the average regimental front. At times, because of enemy fire or mask clearance, it is necessary to fire the guns at a greater range, but this is discouraged because increased range lessens accuracy. Regardless of range the M7 is still more accurate than field artillery because of its 23-ton gun mount.

For firing the M7 at ranges between 1,800 and 2,400 yards, charge 3 is best suited. By using this small propelling charge, mask clearance is more easily attained and reverse slopes may be brought under fire.

In firing the 105mm M7 mount at recommended ranges with charge 3, using fuse M48 super-quick, good effect is obtained because the projectile strikes the ground with less force, resulting in more fragmentation along the surface of the ground and less into the ground.

With fuse M48 delayed action firing at 1,800 to 2,400 yards with charge 3, many of the rounds skip and burst 10 or 12 feet above the ground. This air burst is very effective against personnel. When this shell sticks and does not skip it is effective against light fortifications and emplacements.

Air bursts fired with fuse M54, using charge 3, are accurately controlled because of the slow flight of the projectile. If the fuse fires a second early or late, the yardage between the burst of the projectile and where it was meant to burst is less than it would be if a faster moving projectile were used.

This use of the M7 platoon is referred to as fingertip artillery because it is literally at the fingertip tips of the regimental and the battalion commanders. Its great value and advantage is in the fact that it can be brought to bear on a point target more quickly and with a greater degree of accuracy than field artillery.

As a reference for other M7 platoon leaders, I submit this standard operating procedure for firing fingertip artillery.

When the regiment of which you are a part is committed to action, or better, before it is com-

mitted, if the zone of commitment is known, a thorough reconnaissance of the area should be made. Battery positions, primary, alternate and supplementary, must be chosen and oriented to the map. Routes of approach, communications and supply must be chosen, keeping in mind what effect heavy rain and mud will have on them. A battery position that provides all possible cover and concealment should be chosen. Level ground is highly desirable. The M7 must sit on level ground or else the gun will be canted. A fire direction center (FDC) should be located behind the guns and connected to each of them by sound power telephones. The OPs of the front line battalions must be located and a telephone line laid to each of them from the FDC.

When committed, the guns should be laid in on a line from the guns to the center of the regimental zone of action. Remember that the M7 has more traverse to the right than to the left and that the mount must be set in facing slightly to the left in order to get equal traverse in either direction.

The OP teams should report to the battalion OPs soon enough to be well schooled on the battalion situation and probable targets and fire missions for the M7 platoon by the time the battery is ready to fire.

The senior observer should register the battery first in his battalion Z of A. Then the battery should be registered in the other line battalions' Z of A. The battery is then ready to fire upon targets along the whole of the regimental front, or at least that part of the regimental front where it is needed most.

For direct fire missions any number of guns may be separated from the battery and dispatched on the mission. The direct fire mission may be controlled by radio by the observing officer from the battalion OP. For these missions, charges 5, 6 and 7 are used, depending upon the character and material construction of the target. When the direct fire mission is completed the gun may then return to battery.

Direct fire

Direct fire is that type of fire delivered at ranges up to 1,200 yards when the gun sight and range and deflection are calculated through the sight by the gunner. The accuracy and consistency of direct fire is in direct proportion to the efficiency of the gunner in estimation of range and deflection changes. Direct fire should be used only against point targets such as caves, pillboxes, buildings and

other objects that can be definitely identified by the gunner. Such targets should be located before the M7 is positioned to fire. When the target is destroyed the M7 should return to its battery and be ready to fire indirect fire missions on call. Direct fire from the M7 has left many a Japanese cave-dweller homeless.

Semi-direct fire

At ranges of 1,200 to 1,800 yards when the target may be seen through the gun sight, semi-direct fire should be used. For the first round the range should be set on the range quadrant and the deflection sighted through the gun sight by the gunner. If the first round does not hit the target the observer should give corrections of deflections and elevation in mils. Upon receiving a correction in deflection the gunner should immediately set his sight on the clearest aiming point and measure the ordered mil correction from it. The assisting gunner should apply the mil correction to the range quadrant and adjust the piece. Thus the possibility of error rests with the observing officer. The firing is controlled by accurate instruments, not the gunner's guess. Semi-direct fire is equally as good on point targets as direct firing. When more than one gun is used it is far superior. On point targets the guns 2, 3 or 4 fire as one gun; on an area target a sheath may be adjusted to suit the target.

Indirect fire

At ranges over 1,800 yards indirect firing methods should be used whether the gunner is able to see the target through the gun sight or not. If the target may be seen through the sight, semi-direct firing methods may be used to initially lay the battery, but once the battery is laid an aiming stake should be used in place of an aiming point. If the target cannot be seen through the sight, an aiming circle should be used to lay the battery. Once the battery is laid, an FDC should be set up to control all guns as directed by the OP.

Indirect fire from the 105mm on M7 is second to none in accuracy. It can be brought much nearer to friendly troops than field artillery or mortar fire.

Night firing

The M7 should not be used for night fighting unless it is set up with an artillery battery and firing under the direction of an artillery FDC.

With the personnel available to the M7 platoon, only the simplest form of FDC can be set up. This FDC has neither the equipment nor the training to handle night firing.

At night, direct fire missions are out because the gunner cannot see his target. Aside from that, the tremendous muzzle flash would draw heavy enemy fire which would cause more damage to nearby friendly troops than sound tactics would permit.

The Battle of Mines

THE scale of this war was amazing. Five years ago, no one would have assumed that the battle of mines would assume such dimensions. Anyone who had estimated that it would take 10,000 mines to cover the defenses of one division would have sounded ridiculous. Not long ago when Sugar Cone Mountain in the North Caucasus was de-mined, from 10 to 20 German mines were found in every square meter, and since there was not room enough to have laid them out side by side, the Germans planted them in four layers. During the offensive, the Red Army engineers had time to do little but clear a path for the advance. The job of removing the mine fields was tackled first by the local population themselves.

According to the most moderate estimates, the civilian teams tested and made safe for habitation 100,000 small towns and villages, clearing 18,000 mines fields totalling approximately 20,000,000 acres in area, and made harmless 65,000,000 lethal objects. 15,000,000 of these were mines while the rest were booby traps and duds.

One girl who hunted down winged bombs had her own method of fighting them. She approached them with a sliding gait to avoid the slightest movement of air. Then she lassooed the bomb and retreated about 20 meters into a small trench from which she drew the lasso towards her.

Colonel Joseph Savitsky, who has charge of all

civilian de-mining operations, has a very high opinion of the 30,000 girls on the de-mining teams. As a matter of fact, he considers them even better than the men. They are more efficient, more careful and even more cool-headed, he declares. There are far fewer accidents among the women sappers than the men. They are less likely to take chances and that is a very important quality for a sapper.

It is much more difficult to find a mine than to render it harmless. A man who flew in from the north said that a hundred mine fields planted by the Finns in swampy areas are now under water. In another case civilian de-miners, who had cleared a forest tract, found that they had to start all over again because mines had been planted in tree tops as well. Three peasants found an old telegraph pole lying in the road and began to saw it up. It exploded. A de-mining squad investigated and found that the Germans had mined their poles to prevent communications from being cut. A hole had been drilled inside the pole and filled with explosives so that the pole would explode when sawed. This will not mean the removal of millions of poles because it was also discovered that every mined pole had two large copper nails driven in the top of it as a warning to German signalmen.

The Colonel is confident that all fields will be clear in a year. *Soviet Information Bulletin.*

Air Doubletalk

By PFC Milton Burns

TWO air observers conducting simultaneous fire missions with two or more heavy artillery battalions on the same radio frequency—that is deadly doubletalk. Although this unconventional multiple method of firing by air observation has been used successfully on a small scale in the Marine Corps, little has been written about it.

For the first two months of the Okinawa campaign, the Foley (formerly Henderson) Field Artillery Group, fire direction unit of III Corps Artillery Headquarters Battery, controlled fire of the 7th, 8th and 9th 155mm gun battalions via air observation over two radio nets. One set of planes was equipped with ultra high frequency FM sets, the other with radios designed to work with TCSs on the ground. Toward the last four weeks of the campaign the FM planes were withdrawn, leaving the group with planes whose radios operated at peak efficiency on one certain assigned frequency.

Since the group relied almost exclusively on observation from the air, the CO and the 3-Section officer decided to utilize the unorthodox method. Apparently, the prospect of all that artillery lying around idle while only one battalion fired was not exactly relished.

Their proposal was to send planes up in pairs, firing two battalions on separate missions on a single radio frequency. To this writer, a field radio operator painfully acquainted with the many inherent bugs in radio, it appeared to be a large order.

At best, air-ground artillery observation is beset with strange, often weird, radio difficulties: weather conditions have a tendency to cause fading, among other peculiarities; varying altitudes inexplicably cut off communication when it is needed most.

Taking such factors into consideration, to the radio operators, at least, the proposed method appeared a bit impractical. Observers were bound to interfere with each other, it was felt. Ditto the battalions. Unidentified "on the ways," "splashes," "spots," might hopelessly clutter the air, making confusion the rule, coherence the exception.

AOs and battalion and group FDC personnel were briefed along the following lines:

1. Battalions would listen to their radios but not transmit, transferring the necessary adjustments to the guns as the AOs called them. All transmissions would be relayed by Backward (code designation for the Foley Group).

2. Observers were to follow each others' transmissions carefully so that break-ins could proceed without interference.

3. All fire was to be coordinated over a four-way

telephone setup—the three battalions on a conference wire to the control officer at Backward.

4. Expediting missions, all radio transmissions were to adhere strictly to a skeletonized procedure.

Here is a brief picture of the initial run, in almost verbatim form.

"Backward, this is Bluerock one zero (Bluerock designating observation unit, numerals identifying observer). Fire mission. Over."

"One zero from Backward. Ready for mission. Over."

"From one zero. Target square 7776. Jap troops, camouflaged trucks. Request battery two rounds for adjustment. Over."

"From Backward. Roger. Buckeye (8th Battalion) will adjust. Stand by. Out."

"Backward from Bluerock one three. Fire mission. Over."

"One three from Backward. Go ahead. Over."

"From one three. Jap gun firing from cave. Looks like 150. Request precision adjustment with one gun. Fire at my command. Over."

"From Backward. Roger. Jumper (9th Battalion) will adjust. Over."

"Roger from one three. Out."

"On the way, Buckeye, break, Jumper is ready."

"Roger one zero."

"From one three, fire."

"Splash Buckeye, break, Jumper on the way."

"Roger one zero."

"Roger one three."

"From one zero. Up five zero, deflection correct, fire for effect."

"Roger Buckeye, break, Jumper splash."

"Roger one three. Range correct, left one five zero."

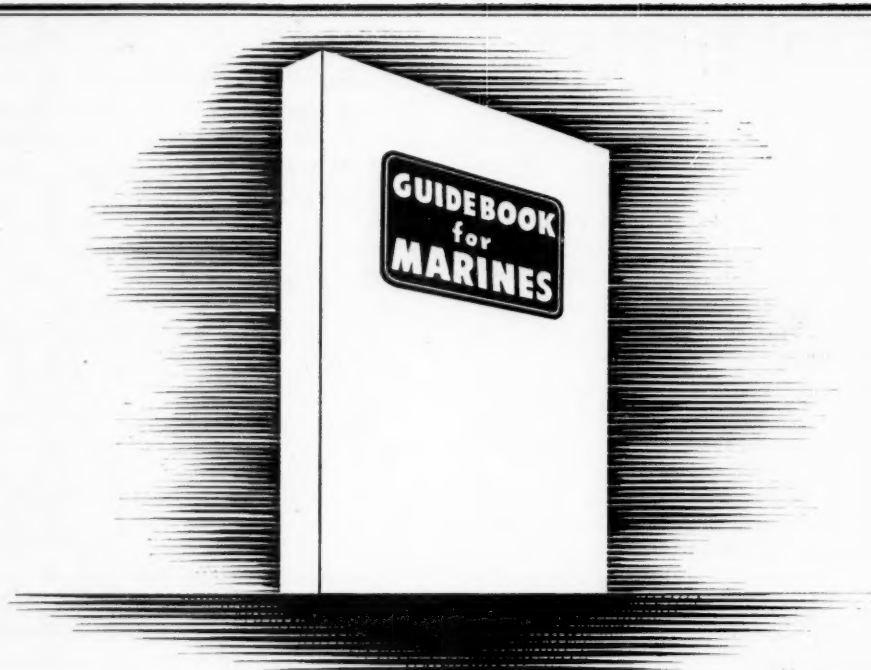
"Roger Jumper, break, Buckeye on the way."

On paper, the not-too-amusing possibilities of confusion loomed large. Actually, however, this unique airspot-to-guns doubletalk clicked with precise, machine-like effectiveness.

Logistically, this arrangement led to twice—and on that one rare occasion when a relief observer on his way to take over picked up a juicy target, causing the added complication of three planes simultaneously firing three battalions on three missions, treble—the fire power of the more prosaic method.

After the successful introduction of the double-talk technique at Backward, conducting fire missions with one plane working one battalion on one frequency was considered archaic, old hat. A sheer waste of kilocycles.

It may well be that with some measure of improvement in this type of fire control, it can be developed to a stage where two FDC air-ground artillery nets may supervise as many as six fire missions consistently—and simultaneously! **END**



order your copy of GUIDEBOOK FOR MARINES

ORDER BLANK ON PAGE 59



The First Uncensored Story—* **ON TO WESTWARD*

By Robert Sherrod

The author of *Tarawa: the story of a battle*

This is the first uncensored story of the Central Pacific campaign—a searing, exciting story by a great correspondent, Robert Sherrod of *Time*, who followed our fighting men 175,000 miles by air, by sea, and on foot into the bloody depths of battle. *On to Westward* is Robert Sherrod's personal record of the campaign as it appeared to him, a campaign as spectacular as it was successful, as well as his detailed story of the key battles he witnessed at Tarawa, Saipan, Iwo Jima—and the landing on Okinawa.

165A

\$3.00

★ ★ ★

A RIBBON AND A STAR

By John Monks, Jr.

The dramatist served with the Marines through the Bougainville campaign. Here is his story of fighting through miles of disease-infested swampland, hand-to-hand battles with the Japs, and the victory that came at last over almost impossible odds. Illustrated with 34 full color page drawings by John Falter, noted artist.

140A

\$3.00

OFFICIAL MARINE CORPS PICTURES

Now available—official Marine Corps photos taken during each major operation by Marine Corps cameramen—actual combat scenes—set of twenty, 4"x5" glossy prints per set, \$1.20. Order sets by name.

(1) Guadalcanal (2) New Georgia (3) Bougainville (4) Tarawa* (5) Kwajalein (6) Eniwetok (7) Saipan* (8) Guam (9) Tinian (10) Peleliu* (11) Iwo Jima (12) Okinawa (13) Air Activities (14) Combat Engineers (15) Tanks in Action (16) Amphtracs in Action (17) Marine Cemeteries (18) Communications in Action (19) Women's Reserve Activities.

*Photos of these campaigns come in two different sets. Order single or both.

★ ★ ★

Use Order Form on page 64

GAZETTE BOOKSHOP

1121 14th Street, N. W.

Washington 5, D. C.

Two Flags at Tarawa

By Jim G. Lucas

(Former USMC Combat Correspondent)

SO much has been revealed of the brutality of the Japanese that the story of what happened on tiny Tarawa after the first bombs fell on Pearl Harbor in December 1941 can only be looked upon as accumulative evidence. Yet, when we first heard of it in November 1943, it was a shocking narrative. Since our efforts to tell it then were unsuccessful, perhaps now it should go in the record.

The story was told aboard the USS *Harris*, one of the transports which took the Second Marine Division to Tarawa, by Maj F. G. L. Holland, British commissioner of education in the Gilberts from 1920 to 1941, who went back to the islands with the Marines. He told his story only after he had verified it with the natives who stayed behind.

The major escaped from Tarawa to Fiji in the summer of 1942. He left behind the Rev. A. L. Sadd of the London Missionary Society, R. G. Morgan, an Australian radio operator, Captain I. Handley, a retired sea captain, and a Mr. MacArthur, a trader who had lived in the South Seas for half a century. In addition, there were 19 New Zealand Army men, manning short wave radio stations throughout the islands.

For Maj Holland, return to the Gilberts meant fulfillment of a promise he made his natives when he fled. It also meant heartache, for he learned that the 23 Europeans who remained behind were brutally massacred by the Japanese.

The natives told him that, after his escape, the white men were rounded up and placed in a concentration pen on Tarawa, first having been tied to cocoanut trees and left for three days without food or water. Thereafter, they were forced to carry rocks and logs used in construction of Japanese defenses. Natives tried to supplement their meager fare of rice and water.

After three weeks, an American cruiser slipped into the harbor and shelled Tarawa.

"It happened at 1 p.m.," he said, piecing together the story told him by his boys. "At 4 a.m., the Japanese took the white men out of their pens, shot each man through the head,

decapitated them, and threw their heads in a large pile which they burned on the spot. The bodies were left as a "lesson" to the loyal Gilbertese, and lay where they had fallen for as long as five weeks after they were killed."

Maj Holland was on Tarawa on 7 December 1941 when the Japanese struck at Pearl Harbor. He knew what was coming.

"I had a conference with Morgan," he said. "We knew that the Japanese would come down on us from the Marshalls. We were certain, however, that we had no Fifth Column, and we were certain they did not know of our radio. We decided to take Morgan's set back into the brush.

"Forty-eight hours after Pearl Harbor, after we had moved over to Barieki (three miles from Tarawa) we received word from our operator there telling us two Japanese destroyers were in sight. Morgan took his wireless and disappeared.

"Three days later, the Japanese came to Barieki. I met them on the beach. The Japanese officer in charge spoke broken English. He informed me he was assuming authority, but that private property would be respected. He asked where I lived. I showed him the path to my house. He took half his company and started toward it.

"I was marched to the house to join the rest of the party. They forced me to stand aside while my furniture, my barges and my boats were destroyed. I had three new typewriters, which were confiscated."

At this point, Maj Holland said he protested, but the Japanese officer merely shrugged his shoulders and demanded:

"Where is your other radio?"

"I didn't know how much he knew," Major Holland continued. "I insisted we had only the one he had destroyed on Betio. He then asked: 'Where is the other white man?' I still feigned ignorance."

"Do you mean the schoolmaster?", Maj Holland asked.

The Japanese officer replied:

"Yes, school man. Where he?"

"He ran away this morning," Holland replied.

(Continued on page 55)